NORTHLAND
PRIMARY HEALTH
ORGANISATIONS

PRIMARY OPTIONS PROGRAMME NORTHLAND

INFORMATION MANUAL

Phone: 0800 PRIMARYOPS (0800 774 627) **| Fax:** 09 438 3210 **| Email:** primaryops@manaiapho.co.nz
PO Box 1878, Whangarei 0140
www.manaiapho.co.nz/primary_options

Issue 10
Dec 2013

PRIMARY OPTIONS PROGRAMME NORTHLAND
Funded by Northland District Health Board

In association with

The Primary Options Programme Team

Lisa Russ–Programme Coordinator
Phone: 0800 PRIMARYOPS
Email: primaryops@manaiapho.co.nz

Jayne Hill–Practice Facilitator
Phone: 0800 PRIMARYOPS
Email: primaryops@manaiapho.co.nz

Dr Taco Kistemaker – Primary Options Clinical Director (Acting)
Phone: 0800 PRIMARYOPS
Email: primaryops@manaiapho.co.nz

Contents

Section One: General Primary Options Information 6

Rationale for Primary Options Programme Northland 7

The service 7

The service - continued 8

Referral process algorithm 9

Frequently asked questions 10

Handing over to another GP or after hours services during Primary Options 13

Hand Over to another GP for Patient Management in a Rest Home/ Private Hospital or Home Care Services 14

Referring older people 14

How to submit a referral and make a claim 15

Claiming guidelines 18

Consumables 19

Guidelines on IV antibiotics claiming in the electronic POPN system 20

Services 21

Section Two: Guidelines for treatment common conditions 22

ASTHMA: ADULT AND CHILD 23

Acute Adult Asthma Algorithm 24

Acute Adult Asthma – Severity Scale 27

Acute Child Asthma Algorithm 28

Acute Child Asthma – Severity Scale 29

CELLULITIS 30

Treatment of Cellulitis Algorithm 30

Background 31

Intravenous antibiotics for treating cellulitis in the community 32

Nursing management of IV therapy 35

IV administration kits for IV Antibiotics 35

Drug Profiles 36

DVT - SUSPECTED DEEP VEIN THROMBOSIS 37

Algorithm 37

Investigation advice for suspected deep vein thrombosis algorithm 38

Primary care decision rule for suspected deep vein thrombosis 38

(to accompany USS request) 38

Investigation for Deep Vein Thrombosis 39

DVT pathways for Northland 41

Drug Profile – for administration as per Suspected DVT Algorithm 44

DEHYDRATION 46

Background 46
Adult Dehydration Algorithm 47
EARLY DISCHARGE SERVICE 49
Early discharge patient criteria 49
Conditions accepted 50
Services available 50
Early Discharge Pathway 51
FOSFOMYCIN - for patients with multi-resistant UTIs 52
Algorithm 53
Fosfomycin Treatment for Multi Resistant UTIs 54
HYPEREMESIS PATHWAY 56
PAMIDRONATE PATHWAY 57
Background 57
Pamidronate Algorithm 58
Pamidronate Drug Profile 59
PNEUMONIA – (COMMUNITY ACQUIRED PNEUMONIA) 60
Algorithm 60
Investigation and Management of Community Acquired Pneumonia 61
Guideline on the Assessment and management of moderately severe adult community acquired pneumonia 61
CURB -65 Assessment Tool 64
Drug Profiles – Community Acquired Pneumonia 66
PYELONEPHRITIS – ADULT PYELONEPHRITIS PATHWAY 67
Adult Pyelonephritis Algorithm 67
Adult Pyelonephritis Pathway 68
ZOLEDRONIC ACID: IV ADMINISTRATION OF 70
Patient Eligibility: 70
Checklist - Zoledronic Acid Infusion (Aclasta ®) 72
Drug Profile – Zoledronic Acid (Aclasta ®) 73
Patient Information Sheet – Zoledronic Acid Infusion (Aclasta ®) 75
Primary Options Referral Form – Zoledronic Acid Infusion 76
Referral Claim Form 77
Outcome Form 78
Clinical Responsibility Form 79
Terms and Conditions 80
Record of Amendments 82
Acknowledgements 82

Section One: General Primary Options Information

Primary Options Programme Northland (POPN) is a service allowing doctors to access investigations, care, or treatment for their patient as an alternative to an acute hospital referral where the patient can be safely managed in the community. It is intended to reduce the pressure on acute demand at Northland hospitals. A range of community diagnostic, therapeutic and logistical services are provided at no cost to the patient (the initial consult is paid for by the patient).

Some of the most common conditions are included in the manual with guidelines for treatment. Included are: Cellulitis, Suspected DVT, Community Acquired Pneumonia, Early Discharge, Dehydration, Pyelonephritis, IV Pamidronate.

and IV Zoledronate administration. Patients with these conditions, who take up the option of being cared for in primary care, will be expected to be managed according to the best practice guideline provided in this manual, as far as practicable.

Many other conditions can be managed under the POPN criteria, these include e.g. renal colic and abdominal pain.

Additionally, other patients who meet the POPN criteria and who could benefit from accessing the available services will also be accepted onto the programme.

These vary by locality but can include:

- Diagnostic procedures, for example x-ray and ultrasound
- GP and practice nurse home visiting
- Follow up and return visits to general practice
- Intravenous therapy
- Home help and equipment hire (short term)
- Transport to and from primary care locations
- Rest home care (up to three days).

Primary Options is flexible and easy to use. A completed referral form is required to be sent electronically or by fax to the coordinator for services, and a phone call is required to request external services (e.g. organising radiology or rest home). 0800PRIMARYOPS

Primary Options coordination is currently available between the hours of 0830 – 1700, Monday to Friday (excluding public holidays).

Rationale for Primary Options Programme Northland

The Primary Options Programme (POPN) recognises that people may often be admitted to hospital because of financial and/or barriers to gaining access to services in the community. Moreover, POPN recognises the unequal burden of diseases faced by Maori.

Therefore POPN's purpose is to:

- Ensure that the programme is offered equitably to Maori and non Maori
- Enable primary care teams to access community based services offering alternatives to hospital admission
- Build knowledge about service options, including optimum skill mixes, client/whanau focus
- Identify, and where appropriate, address communication and service gaps that contribute to hospital admissions
- Encourage general practice support for reducing hospital admissions
- Support culture and practice changes required to achieve the goals of reducing the level of acute admission and achieving integrated service
- Support evidence based practice

Internationally health services are struggling with increasing Emergency Department presentations and hospitalisations and this trend includes Whangarei Hospital.

The increases are driven by the aging population and the increase in chronic disease.

The impact of these increases are that the system becomes 'backlogged', especially the Emergency Department, and there is evidence that the longer older people stay in Emergency Department the more at risk of complications they are, just as a hospital admission also increases these risks.

Research also shows that many, but not all, people prefer to be able to stay in their own home if they can safely do so.

To cope with these increases programmes are being developed across the health system to reduce unnecessary hospitalisations.

The service

The criteria for a patient to be eligible for primary options are:

- That the patient would otherwise be referred to the hospital for management
- That the patient consents to be managed through Primary Options
- That the patient can be safely managed in the community
- That the expected duration of the event is 3-5 days (approval from the coordinator should be obtained for treatment requiring more than 3 days)
- That the patient can be managed within a budget of $400.00 (ultrasound additional)

The service - continued

To be eligible for POPN funding, where patients have the common conditions (Cellulitis, Pneumonia, Asthma, Suspected DVT and Dehydration) they are expected to be managed according to the best practice pathway included in this manual, acknowledging that these are guidelines and clinical judgment remains paramount.

If in doubt please check with the coordinator.

The POPN services that are funded are:

- **GP or nurse consultations**
- **Nurse observation**
- **IV therapy – either antibiotics or fluid replacement**
- **Private x-ray or scan**
- **Rest home stay**
- **Home support**
- **Equipment Hire services**
- **Transport support**

Services can be provided by either the practice team or by external services. External services are arranged by the POPN coordinator by phoning 0800 PRIMARYOPS

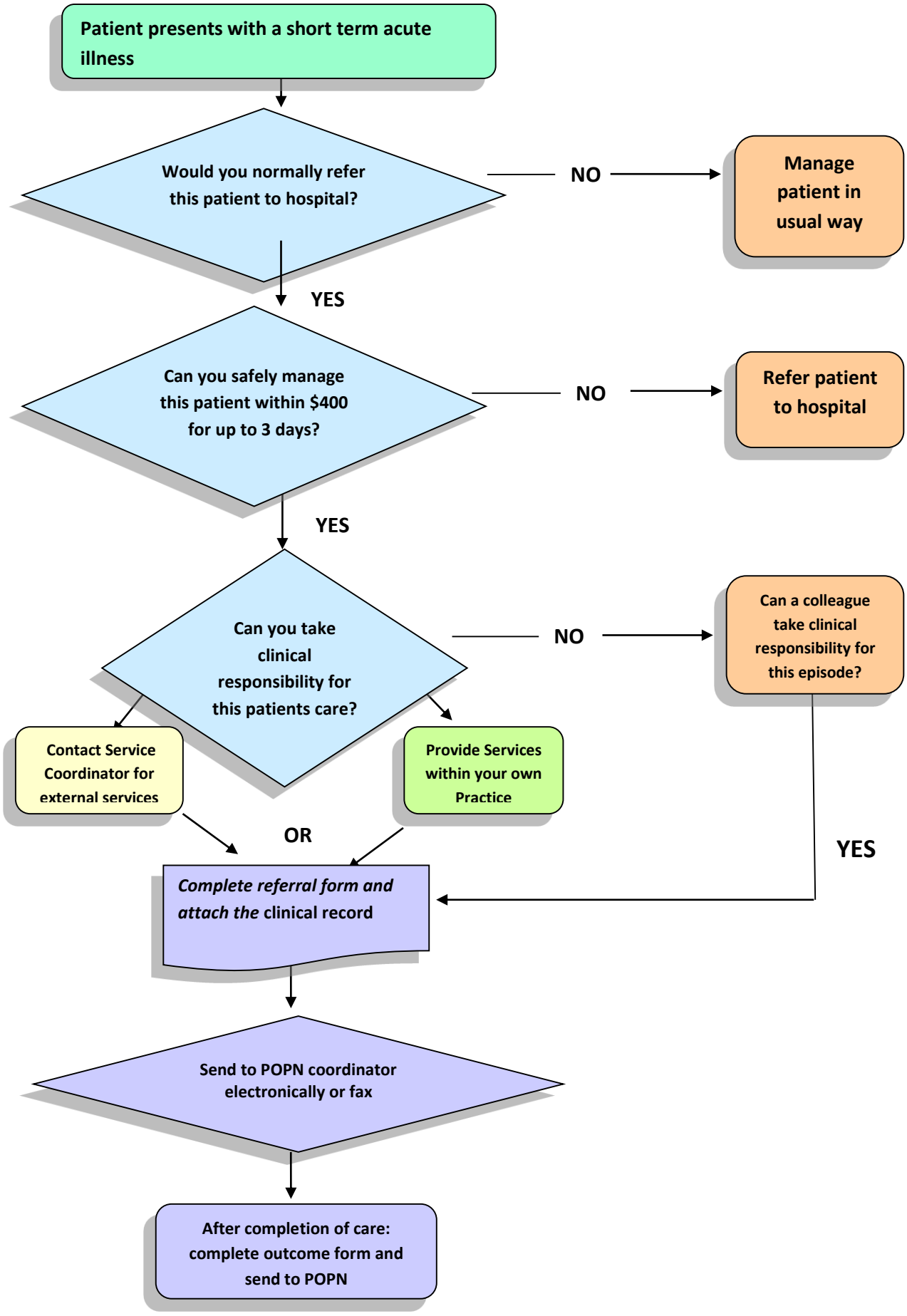
Additionally there will be an opportunity for other flexible solutions such as short term cell phone provision to be provided in consultation with the coordinator.

POPN has a clinical governance group and a clinical director who can provide additional advice about the use of this programme.

The patient can be referred to Primary Options electronically or by fax.

Service coordination is available between the hours of 0830 – 1700, Monday to Friday (excluding public holidays).

Referral process algorithm


Patient presents with a short term acute illness
Would you normally refer this patient to hospital?
NO
Manage patient in usual way
YES
Can you safely manage this patient within $400 for up to 3 days?
NO
Refer patient to hospital
YES
Can you take clinical responsibility for this patients care?
NO
Can a colleague take clinical responsibility for this episode?
Contact Service Coordinator for external services
Provide Services within your own Practice
OR
YES
Complete referral form and attach the clinical record
Send to POPN coordinator electronically or fax
After completion of care: complete outcome form and send to POPN

Frequently asked questions

Which patients are eligible to receive Primary Options Services?

- New Zealand residents who would normally be admitted or referred acutely to a hospital in Northland, and;
- who are expected to be able to be managed within the $400 budget; and
- it is expected that their episode will be resolved in 3-5 days; and
- who can be managed safely in the community.

Which patients are NOT eligible for Primary Options Services?

- Patients with chest pain of cardiac origin should be sent immediately to hospital by ambulance
- Children with bronchiolitis or pneumonia
- Patients with complex conditions and needs
- Patients who are requiring long term palliative care
- **EXCEPTION:** IV Pamidronate infusions may be funded under Primary Options for mid and far North patients as per the Pamidronate Pathway.
- Patients whose required care is covered by ACC, or maternity benefits
- **EXCEPTION:** Hyperemesis is accepted under POPN.
- Patients who do not agree to the terms and conditions of Primary Options
- If there is any doubt, please contact the Coordinator on 0800PRIMARYOPS

Who can clarify whether Primary Options is the right programme for your patient, and /or that your patient is eligible?

- The Primary Options Programme Coordinator and/or administrator can be contacted by phoning 0800PRIMARYOPS

How can services be accessed for patients?

For services that meet the guidelines in this manual and that can be provided by your own practice or service,

- If you are on Medtech you can make an electronic referral on the Primary Options Programme Northland **advanced form** .
- fax the referral form and relevant clinical record note through to the programme within 24 hours

For coordination of services provision by an external provider e.g. rest homes , scans

- phone the coordinator on 0800PRIMARYOPS and
- send an electronic referral and relevant clinical records via advanced form (or fax to 094383210 if electronic option not available)

When should the referral form be faxed or sent electronically to POPN?

Immediately. Particularly if it is being sent through Medtech. This simple process can be done during the consult with the patient. If the referral is a paper system, then the form should be received within 24 hours of the patient's initial consultation or the next normal working day.

Does the patient have to pay for any services?

The patient only has to pay for the **initial consultation**, thereafter services provided related to that episode of care are free to the patient.

How much is allocated per patient?

There is an allocation of $400 (including GST) per episode plus ultrasound costs.
Discuss with the coordinator (0800PRIMARYOPS) if it appears that costs (not including scans) may exceed $400.

How many days can a patient be treated under POPN?

The episode of care should be likely to have completely resolved within five days. Treatment lasting more than 3 days requires approval from the coordinator- 0800PRIMARYOPS

Can the practice team provide Primary Options Services?

Yes, some examples of Practice based services are:

- After hours consults
- Home visits by GP or practice nurse
- Practice observation for e.g. asthma or renal colic
- IV therapy e.g. antibiotics for cellulitis
- IV rehydration
- IV Zoledronate

Who else can provide Primary Options services?

IV therapy can be coordinated to be provided 7 days per week by iwi nurses, district nurses, Kensington hospital White Cross.
The choice should be made in conjunction with the coordinator and should be based on the best services for the patient. Other providers include:

- Private x-ray services including ultrasound for e.g. suspected DVT
- Residential care facilities- This can be a GP or hospital based referral and is for a maximum of 3 nights.
- Home support providers- short term
- Equipment suppliers- short term
- Transport providers- for transport to and from appointments in primary care if it fits the criteria.

All external services must be arranged by the Coordinator. (0800PRIMARYOPS)

If your practice is unable to provide IV therapy for a patient please contact the coordinator who will arrange an alternative provider for this service. (This treatment option is available 7 days per week in most areas.)

Who takes clinical responsibility for my patient when enrolled with Primary Options?

The doctor who initially refers the patient carries clinical responsibility, unless that doctor has specifically handed over care to another doctor. Please see ***Clinical Responsibility Form (www.manaiapho.co.nz- primary options- forms).***

What if the patient is enrolled with another GP?

When a doctor (the initiating doctor), who is not the patient's GP refers a patient to the service he /she agrees to advise and handover care to the patient's GP at the earliest practical opportunity e.g. the next working day.

How are practice based services claimed back?

It is intended that referrals will be sent electronically, however, if the referral is paper-based:

1. **Notification**: complete the patient details on the referral form and fax the form to the programme coordinator on fax: 09 438 3210
2. **Completion of care**: complete the outcome and invoice form and fax or post to us once the episode of care has been completed, *no later than 30 days following initiation*, along with clinical notes for each day of treatment.

If there are any queries regarding electronic referrals contact Lisa Russ
on 0800PRIMARYOPS

What happens after hours?

Office hours for the coordinator are 0830-1700, Monday – Friday (excluding public holidays).
If treatment is to be carried out within the practice after hours then that can continue and the referral can be sent through via Medtech advanced form. However Primary Options cannot coordinate external services currently after hours.
Primary Options pays for planned or referred after hours follow up services provided by the GP or after hours medical centre if needed.

What if my patient eventually needs to be admitted?

Refer to hospital services in the usual way. It is essential that all patients are admitted when necessary; risks should never be taken to avoid an admission. Primary Options will cover the episodes of care within the Primary Options criteria. Stabilisation of patients who are on their way to hospital is not covered under Primary Options.

Can services be accessed for the same patient for more than one episode of care?

Yes, funding is allocated per patient, per episode of care.

How much should I charge?

Refer to claiming guidelines on the Primary Options website www.manaiapho.co.nz – primary options- claiming guidelines.

How is Primary Options monitored?

All Primary Options Programme Northland referrals are reviewed and any referrals which do not fit within the guidelines are referred to the clinical director of NPHOS for assessment. The Clinical Director may accept a reviewed case or decline the case and send it to a Clinical Review Board (Consists of the Clinical Director of NPHOS, an Emergency Department physician and NDHB physician) who make the final decision. Notification of a declined referral is sent to the GP. An opportunity to discuss the case is offered.
Please call 0800 PRIMARYOPS if you are unsure whether or not your referral fits the criteria.

How does the electronic claiming work?

The Primary Options electronic claim management system is integrated with your PMS and enables claims to be lodged electronically directly on to your PMS.

How do I get set up for electronic claiming?

Contact the service coordinator or administrator on 0800PRIMARYOPS

How do I get additional forms?

Contact the service coordinator or administrator on 0800PRIMARYOPS or primaryops@manaiapho.co.nz

Who can assist with medical management advice?

The Clinical Director of Northland PHOs is available for advice as necessary on 09 4381015.

Who can assist with administration advice?

Contact the service administrator on 0800PRIMARYOPS or on primaryops@manaiapho.co.nz

Handing over to another GP or after hours services during Primary Options

When a patient's condition requires ongoing treatment or follow-up out of hours by another GP or Accident and Medical Centre -

1. GP must inform Primary Options (by phoning 0800PRIMARYOPS or faxing 438 3210) the following working day.
2. The referring GP must make direct (verbal) contact with the other GP or Accident and Medical Centre.
3. The GP receiving the referral undertakes clinical responsibility for the patient's episode of care.

When the after-hours care has been completed, the GP/Accident and Medical Centre **must inform** the referring GP about the treatment and the patient's condition.

Hand Over to another GP for Patient Management in a Rest Home/ Private Hospital or Home Care Services

When a Primary Options patient has been referred to a rest home, private hospital or home care services and the GP is unable to provide care and take clinical responsibility – for example during a weekend,

1. The GP **must** ensure a nominated GP can provide care and take clinical responsibility during the allocated times.
2. The referring GP **must** make direct (verbal) contact with the other GP.
3. The referring GP must complete a **Primary Options Clinical Responsibility Form**, (see "forms" on Primary Options website www.manaiapho.co.nz) and fax to the service coordinator who will fax to the selected service provider.

Referring older people

Please consider the following points before referring older people to Primary Options Programme Northland.

- Frail older people with multiple medical problems who present with an acute condition, unless the diagnosis is very clear, should be referred to hospital for assessment.
- If referring to Primary Options services e.g. rest home - there should be a clear expectation of recovery within 3 days and a discharge plan in place for the patient.
- If there are already support services in place these patients may need assessment for a greater level of care by NASC.

If the patient requires a needs assessor contact the Needs Assessment Service Coordinator on 09 430 4131. Healthpoint (www.healthpoint.co.nz) also has information regarding services for older people under "Health for Older People".

How to submit a referral and make a claim

If submitting electronically

1. In Medtech, go to 'Advanced forms' and click on 'Primary Options', and then 'OK'.
2. In the Primary Options screen, select 'New Referral', then 'OK'.
3. The following screen requires you to tick all boxes to ensure the patient is eligible for the Primary Options Programme. After ticking the boxes, click 'OK'.
4. Complete the referral screen including 'Provisional Diagnosis', 'Coding' (which relates to the provisional diagnosis), and also 'Add consult notes' which will automatically add patient notes from Medtech. Consult notes or additional comments may also be typed into the blank box. In the drop down box next to 'Provider' select your name. Once all fields are complete, click on 'Submit referral to Primary Options'.
5. Finally, in the next screen click on 'OK' to save the form.

If submitting manually

Referrals, outcomes and invoicing can also be submitted manually. Forms can be found on the primary options website www.manaiapho.co.nz -primary options - forms. Complete the referral form and fax to the coordinator on 09 438 3210. Remember to also fax through all relevant clinical notes, and also D-Dimer result and Primary Care Decision Rule if the referral is for a suspected DVT.

An outcome must also be submitted at the conclusion of the episode of care. Following submission of the outcome an invoice may be issued to Primary Options if you are making a claim. The postal address is: Primary Options, c/- Manaia PHO, PO Box 1878, Whangarei

IMPORTANT – Referring patients with suspected DVT:

- **IN WHANGAREI:**
  Ultrasounds can be organised **at Whangarei Hospital with the radiology department directly by the GP** if the patient has a d dimer result of 500 or greater, and has had a Primary Care Decision Rule done - Please also see DVT section. If there is a low d dimer but the clinical suspicion of a DVT remains high contact 0800 PRIMARYOPS and we will organise a private scan for you.

- **IN OTHER PARTS OF NORTHLAND:**
  Primary Options can organise a private scan. Call the POPN Coordinator on 0800PRIMARYOPS

- The Primary Options coordinator MUST be contacted to arrange PRIVATE ultrasound scans on 0800PRIMARYOPS If the coordinator is by-passed the cost of the service may not be covered by the Primary Options programme.

***The following paperwork is to be faxed to Primary Options (if a private scan is arranged) and the scan provider prior to the scan:**

- D-Dimer test result
- Completed Primary Care Decision Rule (can be downloaded from the 'Forms' section of the Primary Options page of our website www.manaiapho.co.nz/primary_options)
- Radiology request form – faxed to radiology provider – must have patients phone number on it.

Outcomes & Invoicing

Outcomes

An outcome must be completed at the conclusion of the episode of care.
This tells us how the episode of care was managed and also allows the provider to invoice at the same time. Please note: Clinical notes should be added to the outcome either by clicking the add consult notes button – which will go back a consult with each click or by typing notes in manually. After an outcome has been submitted an invoice can also be completed in the system. Invoicing in the Primary Options system automatically feeds information into Medtech (this appears in the patient's Daily Record).

Invoicing

If you need to claim for services/consumables, an invoice should be completed in the system either at the same time as an outcome or separately after an outcome has been submitted.

When invoicing please ensure you provide enough detail for us to understand what you are claiming for. This includes detailing drugs administered (only non-MPSO funded drugs may be claimed for). Please call 0800PRIMARYOPS if you would like assistance with invoicing for Primary Options.

Refer to our Claiming Guidelines on the next page for information about commonly claimed services and consumables. All other items/services should be claimed at your usual rate (ie. The rate at which the patient would normally be charged).

Questions?

Please call the Primary Options coordinator on 0800PRIMARYOPS

Claiming guidelines

Consultations and Procedures	Claim Rate (GST incl.)
GP consultation (15 minutes)	Patient pays for initial consultation Usual consult rate (approx $17.50-$38)
GP Home visit	$ 76.66 per visit (discuss possibility of a mileage claim with Coordinator) $112.75 per after hours visit
Extended GP consult	Patient pays for initial consultation Usual consult rate (approx $17.50-$56)
Nurse/surgery observation time	$1 per minute
Nurse Home visit	$46 per visit (discuss possibility of a mileage claim with Coordinator)
Pamidronate Infusion	Up to $200.00 (incl. consumables) + $15.33 admin fee
Prescriptions	Up to $15 each
Procedures	To be charged at usual rate
Zoledronic acid infusion	$60 (incl. consumables) + $15.33 admin fee

Consumables

Consumables are to be charged at standard price. MPSO funded drugs are not claimable. (this includes bags of saline)_

IV Antibiotic Treatment (excl consumables) (where Primary Options guidelines are being followed)	
Antibiotics paid for by Primary Options or MPSO funded	
	Per day
Day 1- Includes leur insertion	$122.67
Subsequent days	$71.56
Admin fee	$15.33

Where deemed clinically necessary, Primary Options will fund an additional day (to a maximum of the Day 2/3 fees) without prior approval needing to be sought. However, we expect the amount charged to reflect the work undertaken, as some patients may require further IV therapy whilst for others, a brief clinical review may be sufficient.

Kits

IV administration kits are available from EBOS (0800 105501). Enoxaparin or ondansetron kits are also available at Kensington pharmacy. These can be ordered by calling Kensington Pharmacy 094373722. Reorder forms are supplied in the kits.

Kit cost / Claim amount per kit/set (incl. GST)	
IV Antibiotic Kit which includes springfuser tubing and syringe	$41.00
Enoxaparin	$69.51
IV Giving Set	$20.00
Ondansetron	$14.31

Guidelines on IV antibiotics claiming in the electronic POPN system

An example of how you would claim for a 2-day IV Antibiotics treatment is as follows:

1. Once in the Primary Options 'outcome and invoice' or'Invoice' page select 'IV Antibiotic treatment – first day' which can be found under the 'Procedures' options in the drop down box.

2. In another entry field underneath, select 'IV Antibiotics treatment – subsequent days'

3. In another new entry field, select 'IV giving kit – incl springfuser tubing' from the 'Consumables' section of the drop down box, and in the quantity box enter '2'.
(Please note that it is not necessary to add an admin fee as this is included in the amount for the IV Antibiotics treatment).

*IV treatment for cellulitis is expected to be complete in three days or less - If treatment is expected to require more than 3 days, you will need to advise the Primary Options coordinator by calling 0800 PRIMARYOPS The Coordinator will need to get clinical approval for the funding of treatments outside the 3 day guidelines .

PLEASE ALSO CONTACT US IF YOU HAVE ANY QUERIES REGARDING CLAIMING – we are happy to help. Primary Options can be contacted on
0800 PRIMARYOPS or via email to primaryops@manaiapho.co.nz.

Services

Internal services that may be supplied by practice are:

- IV therapy (if you would prefer not to provide this in your practice please contact the coordinator to arrange an alternative provider)
- Fluid administration
- Asthma stabilization
- Pain management if requiring prolonged observation e.g renal colic
- Observation

External Services

Provision of external services is arranged by the Primary Options service coordinator.
Please contact the coordinator on 0800PRIMARYOPS

- Zoledronic acid infusions
- IV therapy / Enoxaparin (Clexane) administration
- Equipment hire
- Home care – home support
- Lab services
- Physiotherapy
- Radiology – US, x-ray
- Residential care - rest home care for up to three nights, private hospital care for two nights
- Transportation

Services are subject to final service agreements/MOU's being put in place and nurses receiving IV designation.

Section Two: Guidelines for treatment common conditions

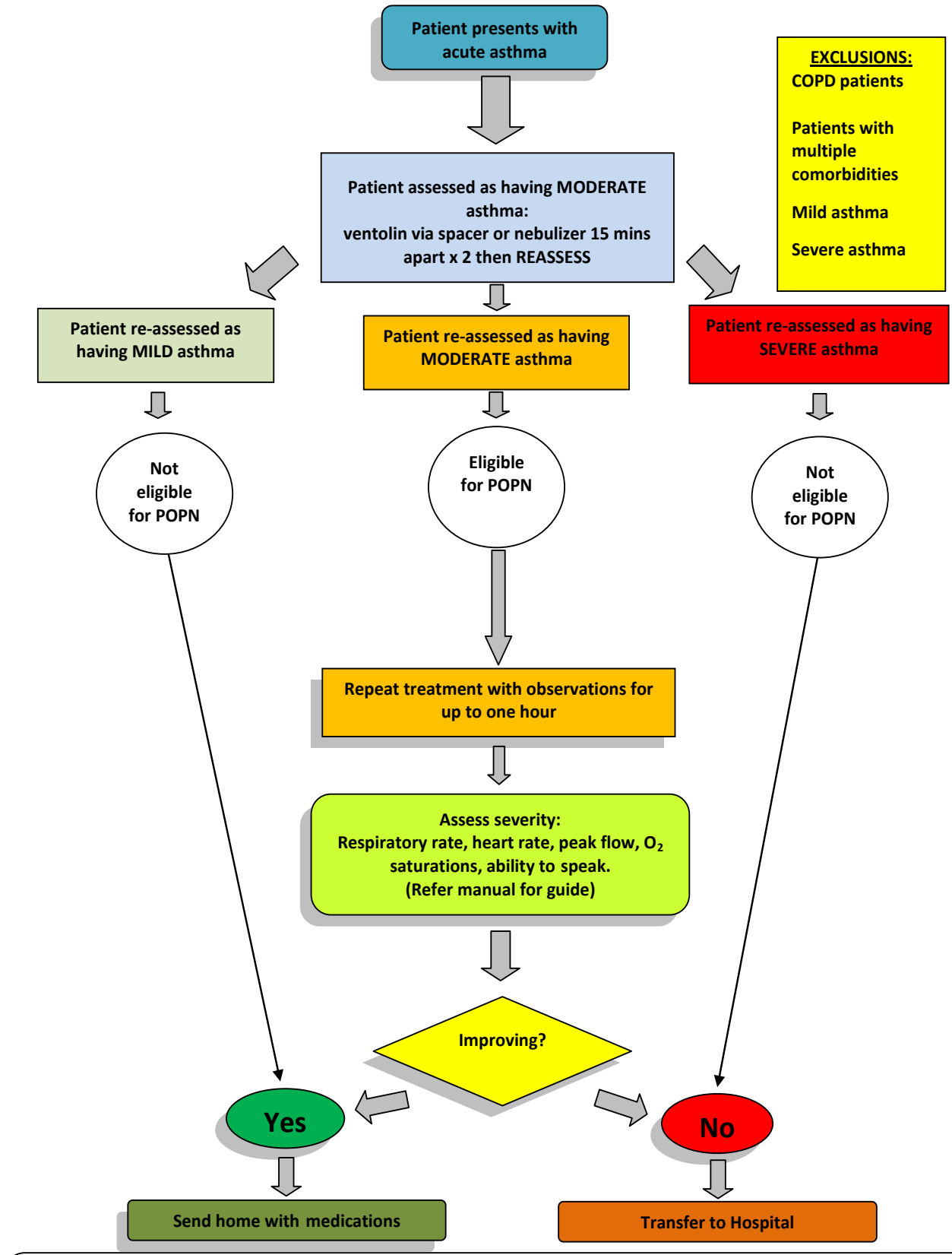
Please note: The POPN programme is not limited to these conditions only – please see eligibility criteria.

ASTHMA: ADULT AND CHILD

Based on

- "The NZ guidelines group (best practice evidence based guideline)" Sept 2002- email info@nzgg.org.nz
- Paediatric Society of New Zealand "Best practice evidence based guideline" – management of asthma in children aged 1-15 years, 2005 – www.paediatrics.org.nz.

Acute Adult Asthma Algorithm


Patient presents with acute asthma
EXCLUSIONS:
COPD patients
Patients with multiple comorbidities
Mild asthma
Severe asthma
Patient assessed as having MODERATE asthma:
ventolin via spacer or nebulizer 15 mins apart x 2 then REASSESS
Patient re-assessed as having MILD asthma
Patient re-assessed as having MODERATE asthma
Patient re-assessed as having SEVERE asthma
Not eligible for POPN
Eligible for POPN
Not eligible for POPN
Repeat treatment with observations for up to one hour
Assess severity:
Respiratory rate, heart rate, peak flow, O_2 saturations, ability to speak.
(Refer manual for guide)
Improving?
Yes
No
Send home with medications
Transfer to Hospital

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Acute Adult Asthma – Severity Scale

Acute Mild to Moderate Asthma

- PEFR > 75%
- Speech normal
- Respiration rate < 25 breaths/minute
- Pulse < 110 beats/ minute

Acute Moderate Asthma

- PEFR > 50%
- Speech normal
- Respiration rate < 25 breaths/minute
- Pulse < 110 beats/ minute

Acute Severe Asthma

- PEFR < 50% predicted or best
- Cannot complete sentences
- Respiratory rate > 25 breaths/minute
- Pulse > 110 beats/minute

Acute Child Asthma Algorithm

Patient presents with acute asthma
EXCLUSIONS:
Child under 1-year-old
Patients with multiple comorbidities
Patients who have had previous admissions to ICU
Mild or severe asthma
Patient assessed as having MODERATE asthma: ventolin via spacer or nebulizer 15 mins apart x 2 then REASSESS
Patient re-assessed as having MILD asthma
Patient re-assessed as having MODERATE asthma
Patient re-assessed as having SEVERE asthma
Not eligible for POPN
Eligible for POPN
Not eligible for POPN
Repeat treatment with observations for up to one hour
Assess severity: Respiratory rate, heart rate, peak flow, O2 saturations, ability to speak. (Refer manual for guide)
Improving?
Yes
No
Send home with medications
Transfer to Hospital

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Acute Child Asthma – Severity Scale

ACUTE ASTHMA

ACUTE ASTHMA SEVERITY TOOL

ACUTE MILD

- speaks/feeds normally
- pulse normal
- respiratory rate normal
- mild indrawing

ACUTE MODERATE

- speaking/feeding interrupted by breaths
- indrawing/accessory muscle use present
- pulse 1 to 5 years >110/min
  over 5 years >100/min
- respiration counted over 60 seconds
  1 to 5 years >40/min
  over 5 years >20/min

ACUTE SEVERE

- can't complete sentences in one breath, or too breathless to talk or feed
- pulse 1 to 5 years >130/min
  over 5 years >120/min
- respiration counted over 60 seconds
  1 to 5 years >50
  over 5 years >30
- indrawing/accessory muscle use obvious

ACUTE LIFE THREATENING

- hypotension
- exhaustion
- confusion
- coma
- silent chest
- cyanosis

CELLULITIS
Treatment of Cellulitis Algorithm

These guidelines provide support for IV Management of Cellulitis in the community when initial oral treatment has failed. The treatment period should be for a minimum of 48 hours. This is to be used for guidance only and not replace clinical judgement.

Inclusion Criteria
- An adult
- Medically stable
- Satisfactory social and environmental circumstances

Confirm Cellulitis
Mark area of erythema with marker
Recommend photo for monitoring response

Exclusion Criteria
Admission is recommended for people with:
- Signs of haemodynamic instability
- Tachycardia
- Relative hypotension
- Severe dehydration
- Extreme or worsening pain or swelling
- Circulation is compromised
- Unstable co-morbidities such as heart failure, diabetes
- A drainable collection that requires surgeon to drain
- An animal or human bite
- Orbital cellulitis.

Consider Laboratory Investigations
- FBC
- CRP
- Electrolytes, glucose, creatinine
- A swab if lesion is discharging

Therapy
If no history of immediate penicillin /cephalosporin hypersensitivity and not known to be an MRSA carrier:
Cephazolin *2gm daily IV plus oral Probenecid *500 mg twice daily

If history of immediate penicillin hypersensitivity:
Clindamycin* 300mg orally 8-hourly (specialist endorsement required)

If a known MRSA carrier:
If there is no response to oral antibiotic to which the MRSA is susceptible refer to hospital for IV Vancomycin*
*Refer to drug profile sheet

Monitor for potential complications
- Local suppuration and skin necrosis
- Bacteraemia
- Thrombophlebitis, particularly of the lower limbs
- Recurrent cellulitis may cause local, persistent lymphoedema
- Clostridium difficile

REMEMBER
Funding does not cover ACC cases

Switching back to oral antibiotics
Review in 48 hours with the aim to initiate oral flucloxacillin 500mg – 1gm qid, one hour before food or two hours after food in 48 hours. If starting oral antibiotics, give the third (48 hour) dose of Cephazolin and initiate the oral antibiotic on the same day.

BED REST AND ELEVATION OF THE AREA OF CELLULITIS IS CRUCIAL TO RECOVERY

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Date of review: May 2014

Primary Options Programme Northland / PO Box 1878, Whangarei 0140 / Ph 09 438 1015 / Fax 09 438 3210

Background

Cellulitis is a regular cause for admission to hospital in Northland, primarily for the administration of IV antibiotics. It is now possible for most adults with cellulitis to be treated in the community through Primary Options Programme Northland.

1. Definition

Cellulitis is diffuse, spreading, acute inflammation within solid tissues, characterised by hyperaemia, WBC infiltration, and oedema without cellular necrosis or suppuration.

2. Cause

The usual pathogens are *Streptococcus pyogenes* (group A β-haemolytic streptococcus) and *Staphylococcus aureus*. The incidence of *Staphylococcus aureus* is increasing.

Staphylococcus aureus usually causes superficial cellulitis but it is typically less extensive than that of streptococcal origin. It is more likely associated with open wound or cutaneous abscess, though differential diagnosis is difficult.

Approximately 10% of S*taphylococcus aureus* may be β-lactam resistant (MRSA).
Differential diagnoses such as a DVT is particularly difficult when oedema occurs in the lower limbs.
Recurrent leg cellulitis may be prevented by treating concomitant tinea pedis.

3. Symptoms and Signs

Cellulitis is often preceded by a skin problem such as trauma, cut, puncture wound, insect bite, ulceration, tinea pedis, and dermatitis. Areas of lymphoedema or other oedema seem particularly susceptible.
The skin is hot, red and oedematous, often with an infiltrated surface resembling an orange skin. Borders are usually indistinct, unlike in erysipelas in which the borders are sharply demarcated and raised. For good photos of cellulitis go to: http://www.dermnet.org.nz/bacterial/cellulitis.html

4. General Cares

Elevating the limb is very important and is probably the main reason people who are hospitalised do better than in the community. Ensure that the person has complete bed rest while at home. Mark the area of erythema with indelible marker to monitor progress of the cellulitis.

5. Potential Complications

- Local suppuration and skin necrosis (occasional)
- Bacteraemia
- Thrombophlebitis, particularly of the lower limbs
- Recurrent cellulitis may cause local, persistent lymphoedema. However the prognosis is generally excellent.

Intravenous antibiotics for treating cellulitis in the community

The potential strengths of home IV antibiotics include:

- The patient being at home with family and able to continue work/school
- A sense of empowerment for the patient
- Fewer nosocomial and cannula associated infections
- Continuity of care by the General Practitioner

To balance this some potential challenges include:

- Disruption of family routine
- A sense of abandonment
- Inappropriate antibiotic selection based on convenience perhaps
- Non compliance with bed rest, leg elevation
- More infections

1. Inclusion criteria for IV treatment of cellulitis in the community

- Adult
- Clear diagnosis of cellulitis
- Medically stable
- Satisfactory for IV access
- Suitable social and environmental circumstances.
- Oral antibiotics should have been tried for 48 hours previously.

Treatment of 12-18 year olds is at the discretion of the general practitioner, depending on accessibility of an IV line, home support and environment. Oral medications should have been tried for 48 hours previously and the cellulitis is not improving adequately, or the first presentation may be so severe or over a joint, or in the face, and you would normally admit the person.

2. Exclusion criteria for IV treatment of cellulitis in the community

Admission is recommended for people with:

- Signs of haemodynamic instability
- Tachycardia
- Relative hypotension
- Severe dehydration where re hydration with IV fluids in the community would not be appropriate
- Extreme or worsening pain or swelling, or circulation is compromised - no pedal pulses

- Unstable co-morbidities such as heart failure, diabetes
- Immunosuppression
- A drainable collection , unless there is significant associated cellulitis. Remember that abscesses need drainage
- An animal or human bites (these are ACC and not included under this scheme)
- Post orbital cellulitis or peri orbital cellulitis unless there is an obvious skin lesion.

If periorbital cellulitis has an obvious skin lesion, including a sty or impetigo then the likely cause is *Staphylococcus aureus* or perhaps S*treptococcus pyogenes*. If the origin of the cellulitis is the sinuses then the organism is likely to be *Haemophilus influenzae* or *Streptococcus pneumonia* and so require hospitalisation.

3. Consider Laboratory Investigations

- **FBC**

The FBC provides a baseline in the event that the person is eventually admitted to hospital, and if the person has toxic changes and a WCC of > 20 x10^9 u/L with 15% bands, then this would be a reasonable indication of the need for hospitalisation.

- **CRP**

This is useful if the clinical picture is equivocal. If the infection is improving then the CRP improves within hours

- **Electrolytes, glucose , creatinine**

Consider a glucose test (finger prick test) as a chance to screen for diabetes. If a person is 'at risk', such as having hypertension and being >55 years old, consider electrolytes and creatinine.

- **A swab if the lesion is discharging or if there is broken skin.**

4. IV Treatment

The first dose of IV antibiotic is given in the general practice or in the presence of a medical practitioner.

i) No history of Penicillin/Cephalosporin hypersensitivity and not a known MRSA carrier

Cephazolin IV 2 gms daily + Probenecid orally 500 mg BD
IV administration
Reconstitute each 1gm vial with water for injection and dilute in 100mls normal saline 0.9% and administer over 20 mins.

ii) History of immediate penicillin hypersensitivity

Clindamycin 300 mg 8 hourly orally.
This hypersensitivity should be an anaphylactic reaction rather than just a rash. The cross sensitivity between penicillins and cephalosporins is only 8%.

iii) MRSA Carrier

If there is no response to the oral antibiotic to which the MRSA is susceptible (e.g. Cotrimoxazole or Clindamycin, depending of proven susceptibility) refer to hospital for IV Vancomycin.

The decision regarding the presence of MRSA should be based on sensitivity history or a previous infection.

Note that the laboratories do not give Clindamycin sensitivity but use Erythromycin as a surrogate. **If the organism is Erythromycin sensitive, then use Clindamycin**. This is because Clindamycin is better tolerated than Erythromycin, and there is inadequate information on Roxithromycin.
Note that if an organism is sensitive to Clindamycin, but resistant to Erythromycin, resistance is very inducible and Clindamycin resistance is likely to occur rapidly. This is a positive reason to use Erythromycin as a sensitivity marker.
See drug profiles for specific dosing in renal impairment, adverse effects and IV administration.

1. Monitor for potential complications

- Local suppuration and skin necrosis (occasional)
- Bacteraemia
- Thrombophlebitis, particularly of the lower limbs
- Recurrent cellulitis may cause local, persistent lymphoedema
- Clostridium difficile. As Cephazolin is a broad-spectrum antibiotic, infection with clostridium difficile should be considered if diarrhoea occurs.

Provide the patient and/or caregivers with the Home Cellulitis Treatment patient information leaflet so they are aware when to report to the general practitioner.

Methods of monitoring that may help the patient decide whether to contact the general practitioner sooner than the 24 hours in which they would normally be checked include marking the inflamed area to monitor any spread.

6. Monitor for improvement

Review the person within 24 hours (at the time of the next antibiotic dose), although if you have concerns about the domestic environment or think the person may be unduly anxious, a telephone call from the general practitioner or practice nurse sooner than this is recommended.

If a person has a *Streptococcus Pyogenes* cellulitis the infection may be improving but the symptoms such as redness and inflammation may continue to progress because of the prior tissue damage (like sunburn, the tissue damage occurs during the day but the Erythema and pain presents later in the evening). This makes evaluation difficult but if there is any doubt, referral to the hospital is recommended.

7. Switching back to oral antibiotics

The patient should be reviewed with the aim to initiate oral antibiotics in 48 hours.

If it is decided to start oral antibiotics, give the third (48 hours) dose of Cephazolin and initiate the oral antibiotics that day. Oral antibiotics are ideally Flucloxacillin 500 mg – 1 gm four times daily one hour before food or two hours after.
Cont…

Oral antibiotics are suitable if:

- Temperature < 38°C for > 24 hours
- Clinical (redness / swelling) and laboratory (WCC, blood pressure, heart rate, respiration) signs of improvement

8. Availability of Community IV therapy

IV therapy can be provided by the practice team either at the clinic or at the patient's home by a general practitioner or a nurse who is IV designated.

For providers who do not have the capacity to implement community IV therapy, the coordinator can arrange this service through another provider. Please contact the coordinator to arrange this if your practice does not offer these services.

Training for nurses in cannulation and IV therapy can be arranged. Please contact the administrator.

Nursing management of IV therapy

All nurses who give IV antibiotics must be deemed to be IV competent. Registered nurses are responsible for ensuring their own competency. For any queries regarding IV training please contact the administrator on 0800 PRIMARYOPS

POPN and NPHOS are committed to keeping the training in line with national standards, NZNO guidelines and required competencies for IV cannulation.

IV administration kits for IV Antibiotics

These are available from EBOS on 0800105501

EBOS IV Antibiotic kits contain dedicated tubing for "springfusor" pumps. Please contact the administrator if you do not have a springfusor pump and/or would like a demonstration of how these are used.

Refer to Cellulitis algorithm for Management of Cellulitis.

Drug Profiles

DRUG PROFILES – MANAGEMENT OF ADULT CELLULITIS ALGORITHM

(Refer to data sheet for full product information) **(Discuss with specialist in cases of pregnancy)**

CEPHAZOLIN

Contraindications & cautions:
Previous hypersensitivity reactions to cephalosporin/penicillin. Use with caution in patients with history of colitis, history of seizures.

Renal Impairment:
Creatinine Clearance 11- 34 ml/min: reduce dose to 1gm/24hrs
Creatinine Clearance ≤ 10 ml/min: refer to hospital

Dosage and Administration:
2 gm administered IV once daily. Reconstitute each 1g vial with water for injection. Add 2g dose to make up to 30ml with normal saline 0.9% and administer IV over 15 minutes.

Adverse effects:
Hypersensitivity reactions. Pain at injection site, watch for extravasation. Nausea, vomiting, anorexia, oral candidiasis. Diarrhoea, consider pseudo-membranous colitis. May need to stop treatment or refer to hospital.

PROBENECID

Contraindications & cautions:
Blood dyscrasias. Uric acid kidney stones. Acute gout. Elite athletes: banned substance in sport. Caution in pregnancy, lactation, peptic ulcer disease. Probenecid decreases excretion of methrotrexate and increases serum concentrations of NSAIDs, lorazepam, acyclovir. Not recommended for concurrent use with antibiotic in patients with known renal impairment.

Dosage and Administration:
500 mg orally twice daily.

Adverse effects:
Headache, nausea, anorexia, pruritis, fever, flushing.

CLINDAMYCIN

Contraindications & cautions:
Previous hypersensitivity to clindamycin or lincomycin**.**
Use with caution in patients with history of colitis.

Dosage and Administration:
300mg orally every 8 hours, taken with a full glass of water to avoid oesophageal irritation.

Adverse Effects:
Diarrhoea, skin rash, oesophagitis, abdominal pain, nausea, skin rash, rarely polyarthritis. Pseudomembranous colitis – if severe diarrhoea develops consider stool culture for Clostridium difficile. Stop drug and seek advice.

Specialist Endorsement:
Clindamycin prescriptions for more than 4 capsules require specialist endorsement. (For endorsement: use Dr A Davis, Whangarei Hospital).

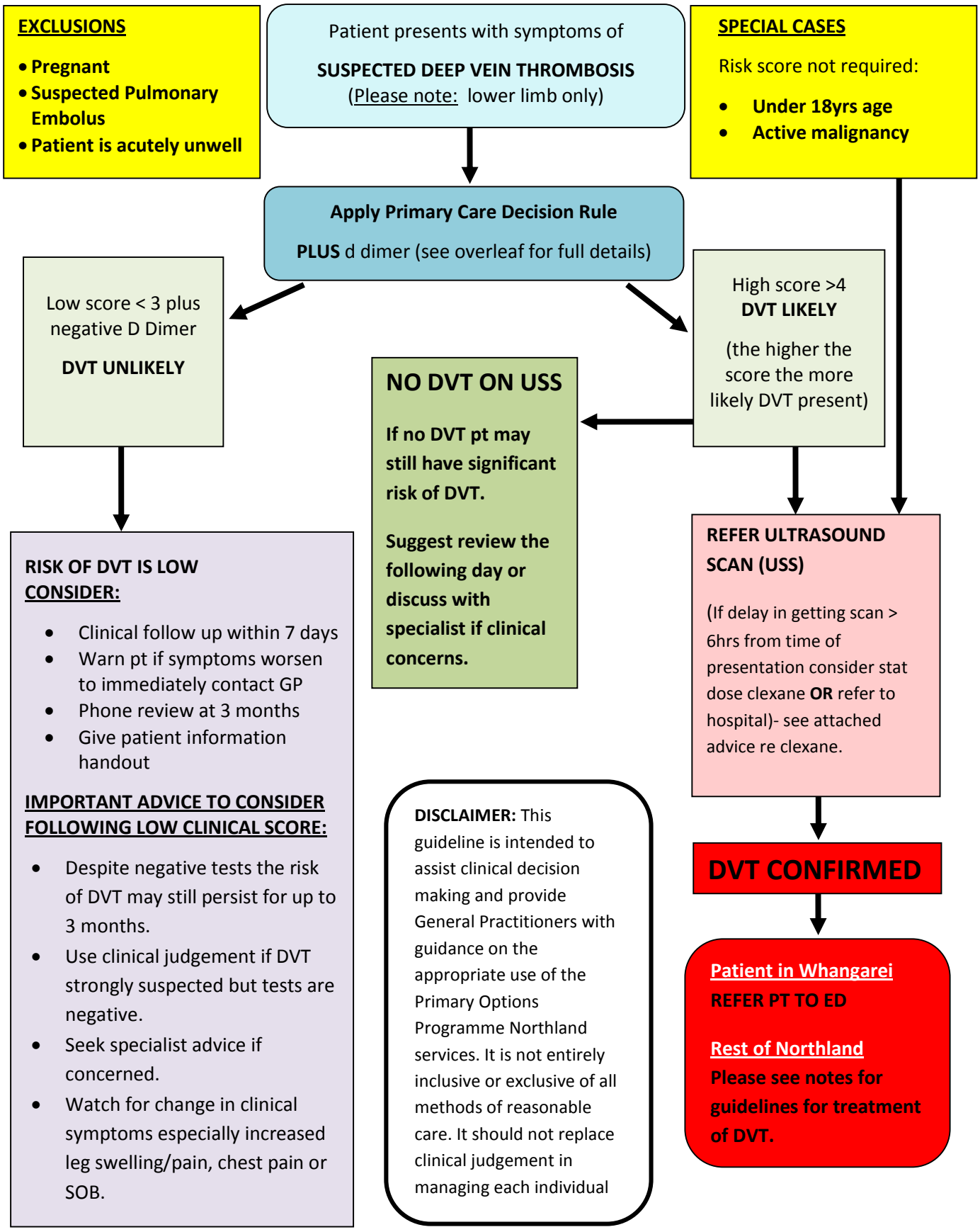
NOTE: ASSESSING RENAL FUNCTION

eGFR can be used for drug dose adjustment for most patients of average height and weight, except for potentially toxic drugs with small safety margin, critical-dose drugs with narrow therapeutic index, in elderly, frail patients and those at extremes of the weight range. In these cases use absolute GFR or creatinine clearance.

Creatinine Clearance (ml/min) =
(140-age) x body weight * (kg)
0.815x serum creatinine (micromol/L)
(multiply by 0.85 for females)

* Use lean body weight (LBW) for obese patients.
LBW (males) = 50 kg + 0.9 kg for each cm over 150 cm in height
*LBW (females) = 45 kg + 0.9 kg for each cm over 150 cm in height

DVT - SUSPECTED DEEP VEIN THROMBOSIS
Algorithm


EXCLUSIONS
• Pregnant
• Suspected Pulmonary Embolus
• Patient is acutely unwell
Patient presents with symptoms of
SUSPECTED DEEP VEIN THROMBOSIS
(Please note: lower limb only)
SPECIAL CASES
Risk score not required:
• Under 18yrs age
• Active malignancy
Apply Primary Care Decision Rule
PLUS d dimer (see overleaf for full details)
Low score < 3 plus negative D Dimer
DVT UNLIKELY
High score >4
DVT LIKELY
(the higher the score the more likely DVT present)
NO DVT ON USS
If no DVT pt may still have significant risk of DVT.
Suggest review the following day or discuss with specialist if clinical concerns.
REFER ULTRASOUND SCAN (USS)
(If delay in getting scan > 6hrs from time of presentation consider stat dose clexane OR refer to hospital)- see attached advice re clexane.
RISK OF DVT IS LOW
CONSIDER:
• Clinical follow up within 7 days
• Warn pt if symptoms worsen to immediately contact GP
• Phone review at 3 months
• Give patient information handout
IMPORTANT ADVICE TO CONSIDER FOLLOWING LOW CLINICAL SCORE:
• Despite negative tests the risk of DVT may still persist for up to 3 months.
• Use clinical judgement if DVT strongly suspected but tests are negative.
• Seek specialist advice if concerned.
• Watch for change in clinical symptoms especially increased leg swelling/pain, chest pain or SOB.
DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual
DVT CONFIRMED
Patient in Whangarei
REFER PT TO ED
Rest of Northland
Please see notes for guidelines for treatment of DVT.

Investigation advice for suspected deep vein thrombosis algorithm

Examine the patient according to the table below. Add each of the individual scores to achieve a total score. Follow the suspected DVT algorithm according to the total clinical score and manage as directed. If clinically unsure or the patient characteristics fall outside the algorithm suggest discussing with relevant specialist.

Primary care decision rule for suspected deep vein thrombosis (to accompany USS request)

Clinical variable	Clinical score
Male	**1**
Use of hormonal contraception	**1**
Active cancer in the past 6 months	**1**
Surgery in the previous 30 days	**1**
Absence of leg trauma	**1**
Distention of collateral leg veins	**1**
Difference in calf circumference >3cm*	**2**
Abnormal d dimer assay (clearview simplify) result	**6**
Total score	**-**
calf circumference measured 10cm below tibial tubercle	

If the TOTAL CLINCAL SCORE < (or equal to) 3 the risk of DVT being present is low. However the risk is not zero. Deep vein thrombosis may still be present in up to 1.4% of patients who have a low score. Hence it is imperative that patients with a low score are advised to report any increase in leg swelling or pain or symptoms which might indicate the subsequent development of DVT or pulmonary embolism (chest pain, SOB or haemoptysis). It is recommended that clinical follow up takes place within 7 days of presentation as well as a phone review at 3 months to ensure that DVT has not developed subsequently.

If the TOTAL CLINICAL SCORE > (or equal to) 4 the patient should be referred for leg ultrasound scan.

IMPORTANT – Referring patients with suspected DVT:

- **IN WHANGAREI:**
  Ultrasounds can be organised **at Whangarei Hospital with the radiology department directly by the GP** if the patient has a d dimer result of 500 or greater, and has had a Primary Care Decision Rule done - Please also see DVT section. If there is a low d dimer but the clinical suspicion of a DVT remains high contact 0800PRIMARYOPS and we will organise a private scan for you.
- **Kaitaia** patients can be referred directly to Kaitaia radiology. **PLEASE CALL FIRST** to discuss with the ultrasonographer.
- **In other parts of Northland** call 0800PRIMARYOPS to arrange a private scan

If the USS scan does not show a DVT then the patient should be reviewed the next day and the same clinical management plan followed as for those with a low clinical score. Patients with a clinical score > or equal to 4 and negative ultrasound scan may still have a significant risk of DVT.

They require very clear advice regarding any increase in symptoms which may indicate development of a DVT or Pulmonary Embolus.

If tests are negative but clinical suspicion for DVT is high then consider seeking advice from a relevant hospital specialist (Haematology, General medicine or Emergency care).

Investigation for Deep Vein Thrombosis

The probability of a DVT is based on the total score:

< 2	Low/Medium Probability
≥ 2	High Probability

This clinical model and algorithm does not cover:

- Patients with a suspected PE- they need a hospital referral
- Pregnancy
- Children under 18 years of age.

- In patients with symptoms in both legs, the more symptomatic leg is used.
- Please remember to complete the Primary Care Decision rule for suspected DVT sheet which the patient needs to take and give to the ultrasonographer.
- This protocol should ONLY be used where a DVT remains likely after performing a history and examination.
- Also consider oral contraceptive or long distance travel impact

High probability - comments

- If the Primary Care Decision Rule is >= 2 then the risk is high (13 to 75%) and an ultrasound scan is needed even if the D-dimer test is negative
- A D-dimer test is still needed even if the risk is >= 2 as this may change the decision as to the need for a follow up scan and where the scan is to done.
- If the Ultrasound scan is negative then a repeat scan is usually required if the Primary Care Decision Rule is > 2 AND the D-dimer is positive

- If the probability is high (Primary Care Decision Rule >=2) and if the ultrasound scan can not be done on the same day (ie within 8 hours) then administer Enoxaparin (Clexane*) – provided there are no contraindications – pending the scan being done. *Refer to drug profile and treatment table below.
- Clexane kits are available through Kensington Pharmacy - please call 09 437 3722.

DVT pathways for Northland

Manaia (Whangarei only)

Patients with a high Primary Care Decision Rule i.e.>=2

If a D-dimer or scan cannot be obtained on the same day (8 hours) then it is recommended that the patient has a single dose of Enoxaparin. This is available through White Cross or at Kensington Pharmacy. Enoxaparin can be delivered at your practice

- These patients need a scan
- They need a D-dimer beforehand
- They need to be referred to Northland Pathology (Rust Ave) for a D-dimer test. Patients must take with them to lab :
    - The completed Primary Care Decision Rule
    - The radiology request form
    - The lab request form

Contact the Radiology Dept at Whangarei Hospital (ext 7591) to arrange a scan. If the D dimer is negative contact the Primary Options Coordinator on 0800PRIMARYOPS to arrange a private scan.

Patients with a low Primary Care Decision Rule BUT a positive D-dimer

- These patients need a scan – please contact the ultrasound dept (ext 7591) at Whangarei Hospital to organise this. If the scan cannot be done on the same day then it is recommended the patient has a single dose of Enoxaparin (White Cross or ordered from Kensington Pharmacy and administered at your practice).

Dargaville and the Mid North (Kaikohe, Kerikeri, Kawakawa, Moerewa, Paihia, Russell, also Whangaroa)

Patients with a high Primary Care Decision Rule >=2

- Contact the Primary Options coordinator to arrange a scan – negative or positive D-dimer will be scanned privately if available. If scan is **not available** within 8 hours it is recommended the patient has a single dose of Enoxaparin – please call Kensington Pharmacy on 09 437 3722 to order this if you do not have this in stock.
- If an ultrasound scan is available - send patient to radiology (usually Northern Radiology) with Primary Care Decision Rule, lab form and radiology form.
- If positive DVT – refer to MOSS (BOI hospital) or administer Enoxaparin – dose as per attached drug profile. Enoxaparin is available via special authority once a DVT is confirmed. If required Primary Options will fund one follow up consult following a positive DVT. Further funded consults are by arrangement only and are dependent on avoiding a presentation to ED or admission to hospital.

Patients with low Primary Care Decision Rule but a positive D-dimer:

- These patients need a scan – please contact the Primary Options coordinator to organize this. If scan **not available** within 8 hours it is recommended that the patient has a single dose of Enoxaparin – please call Kensington Pharmacy on 09 437 3722 to order this.

Kaitaia/Far North

Patients with a high Primary Care Decision Rule i.e.>=2

If a D-dimer or scan cannot be obtained on the same day (8 hours) then it is recommended that the patient has a single dose of Enoxaparin. This is available through Kaitaia Hospital or Shackleton's Pharmacy

- These patients need a scan
- They need a D-dimer beforehand
- They need to be referred to Kaitaia Hospital for a D-dimer test. Patients must take with them to lab:
    - The completed Primary Care Decision Rule
    - The radiology request form
    - The lab request form
- Contact the ultrasonographer at Kaiatai hospital to organize scan.
- If the DVT is positive then contact MOSS at Kaitaia Hospital for treatment or administer Enoxaparin – dose as per attached drug profile. Enoxaparin is available via special authority once a DVT is confirmed.

Advice for General Practitioners

General Comments

1. Patients are separated into low, medium and high risk groups based on a simple 8 point scoring system. The prevalence of DVT in each group is approximately 3%, 17% and 75% for low, medium and high risk respectively. With the use of D-dimer, the low and medium risk patients are grouped, separating them from high risk patients for clinical management.

2. The positive and negative predictive values of ultrasound are about 95% for proximal DVT. Ultrasound scanning is less sensitive to calf DVT but only 20% of patients with symptomatic DVT have clots isolated to the calf[2]. Calf DVT carries a low risk of pulmonary embolism but 20% to 30% may extend to proximal veins although a recent study suggests this may be only 3%[3,8].

3. The negative predictive value of ultrasound scanning is significantly better in low risk patients (99.7%) vs. those at high risk (approx 82%) making it a good screening test to exclude DVT in the low risk patients[9].

4. Superficial thrombophlebitis is usually a benign self limiting condition. Although it may extend to deep veins but the risk of deep vein thrombosis (DVT) following a superficial

thrombophlebitis is low in people who do not have a past history of DVT (about 2.7% compared to 0.2% in age- and sex-matched controls**)**[5]**.**

5. D-dimer is raised in patients with thrombosis. Raised D-dimer levels are also associated with many other conditions including infection, malignancy, trauma or surgery, significant infection (eg cellulitis), inflammation, other thromboembolic conditions (eg stroke, myocardial infarction, acute arterial thrombosis), and medical conditions such as congestive heart failure, renal failure[6].

6. Do not over-rely on a normal D-dimer result if clinical symptoms are worsening.

7. For patients who have low risk of DVT (based on Primary Care Decision Rule or D-dimer) then it is safe to withold enoxaparin administration for 12-24[2] hours pending a D-dimer test.

8. The risk of DVT over 3 months is low (0.4%- 2%) for those patients with normal ultrasound and D-dimer results[7].

9. Low and medium risk patients (a pre-test probability < 2) with normal D-dimer results or normal ultrasound should be contacted after 1 week for review. If symptoms worsening then a repeat D-dimer test or ultrasound may be necessary.

References

1. Wells P S, et al., Value of assessment of pretest probability of deep-vein thrombosis in clinical management. Lancet 1997; 350: 1795-1798.
2. Scarvelis D, Wells P. Diagnosis and treatment of deep-vein thrombosis. CMAJ 2006;175(9):1087-1092
3. Kahn, S.R., Macdonald, S., Miller, N. & Obrand, D. The natural history of untreated isolated calf muscle vein thrombosis: rate, timing and predictors of extension. Blood 2002;100
4. Anand S et al., Does this patient have deep vein thrombosis? JAMA 1998; 279(14): 1094-1099.
5. http://www.cks.nhs.uk/thrombophlebitis_superficial/evidence/supporting_evidence/risk_of_dvt_or_pe
6. http://www.uptodateonline.com/online/content/image.do?imageKey=hema_pix/cause131.htm&title=Causes%20elevated%20D-dimer
7. Bernardi E et al., D-dimer testing as an adjunct to ultrasonography in patients with clinically suspected deep vein thrombosis: prospective cohort study. BMJ 1998; 317: 1037-1040.
8. British Society for Haematology. BJH Guideline. The diagnosis of deep vein thrombosis in symptomatic outpatients and the potential for clinical assessment and D-dimer assays to reduce the need for diagnostic imaging. British Journal of Haematology 2004;124:15-25
9. Dryski M et al., Evaluation of a screening protocol to exclude the diagnosis of deep venous thrombosis among emergency department patients. J Vasc Surg 2001; 34: 1010-5.
10. POAC

Drug Profile – for administration as per Suspected DVT Algorithm

ENOXAPARIN SODIUM (CLEXANE® AND CLEXANE® FORTE)

(Refer to data sheet for full product information)

Contraindications – Refer to hospital

- Allergy to enoxaparin, heparin or its derivatives
- Active bleeding
- High risk of bleeding (e.g. thrombo-cytopenia, brain metastasis, oesophageal varices, recent GI or intracranial bleed (<3 months))
- Recent haemorrhagic stroke (<1 month)
- Recent neurological or ophthalmological surgery
- Uncontrolled hypertension
- On warfarin (therapeutic INR)
- Severe hepatic or renal impairment
- Anaemia (Hb <100g/L)

Precautions:

Risk of bleeding; history of heparin-induced thrombocytopenia; gastro- intestinal ulceration; bleeding diathesis; impaired haemostasis; agents affecting haemostasis; recent ischaemic stroke; diabetic retinopathy; organic lesions liable to bleed; renal and hepatic impairment; pregnancy; lactation; low body weight women (<45 kg) and men (<57 kg); obesity; high does; elderly.

Dosage and Administration:

Patients up to 100kg:

1.5 mg/kg body weight once daily administered subcutaneously.

Patients over 100kg:

1 mg/kg bodyweight every 12 hours administered subcutaneously.

High risk patients e.g. patients with severe renal impairment (creatinine clearance (or eGFR) < 30 ml/min), patients with iliac vein thrombosis or cancer, obese and underweight patients, and the elderly, will need dosage adjustment should they be proven to have DVT and require treatment. Refer to hospital.

Calculation of dose:

Based on body weight in kilogram (kg). Volume to be injected should be measured and administered precisely according to the dosage calculated,

e.g. 90kg patient requires 90 x 1.5 mg = 135.0 mg. Administer 135 mg from 150mg/1ml syringe i.e. 135/150 =0.9ml

Adverse events:

Haemorrhage; anaemia; thrombo-cytopenia; injection site reactions; skin necrosis; allergic reactions. Rare: anaphylactic /anaphylactoid reactions

Sourcing of Enoxaparin syringes:

IV kits for Enoxaparin are compiled by Kensington Pharmacy in Whangarei and distributed out to depot pharmacies around the north for local distribution. Please fax order form to Kensington Pharmacy on fax number 09 437 3726 or contact your local pharmacy for supply.
Practice/pharmacy to keep stock of 150mg/1.0ml x 2 ready-to-use, pre-filled syringes with graduated markings for single use in patients who meet DVT criteria.

References:

1. Clexane and Clexane Forte Approved Data Sheet, December 2008.
2. QSUM. Medication Alert. Low Molecular Weight Heparin Treatment in Renal Impairment. Alert 5. January 2008.
3. Nutesca EA, Spinler SA, Wittkowsky A, Dager W. Low-molecular weight heparins in renal impairment and obesity: available evidence and clinical practice recommendations across medical and surgical settings. Ann Pharmacother 2009; 43: 1064-1083. Epub 2009 May 19.

DEHYDRATION
Background

Assessment of dehydration is always imprecise but it still helps to come up with a rough estimate of mild/moderate/severe dehydration to guide fluid replacement. Dehydration produces different signs from acute fluid loss (eg blood loss, or severe sepsis). A 50% acute loss (40mls/kg) produces a moribund very sick child but the same amount of total body fluid lost gradually produces signs of only mild dehydration.

When making any assessment of dehydration it is important to review the patient and to monitor for ongoing losses and signs of improvement.

Mild dehydration (3% deficit)

- Up to 3% loss of body weight
- Thirst

Moderate dehydration (6% deficit)

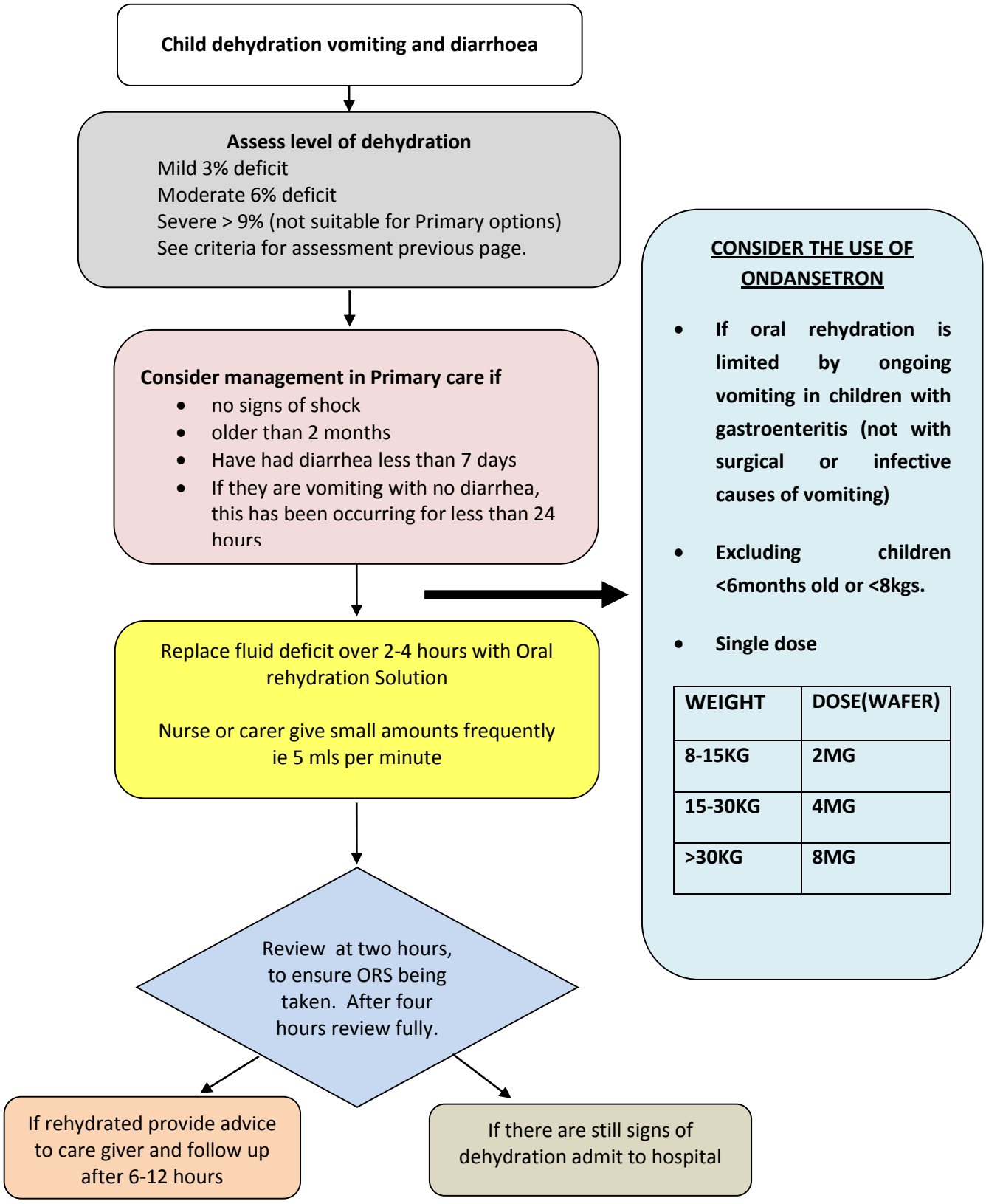
- Up to 6% loss of body weight
- Dry mouth
- Sunken eyes
- Irritability/restlessness
- Cool hands/feet
- Reduced urine output
- Reduced skin turgour (think of altered serum Na+ if present)

Severe dehydration (>9%)

- Up to 9% loss of body weight
- All of moderate signs/symptoms PLUS
    - Tachycardia
    - Poor peripheral pulses
    - Cold peripheries
    - Reduced capillary refill centrally (sternum)
    - Signs of acidosis (breathing)

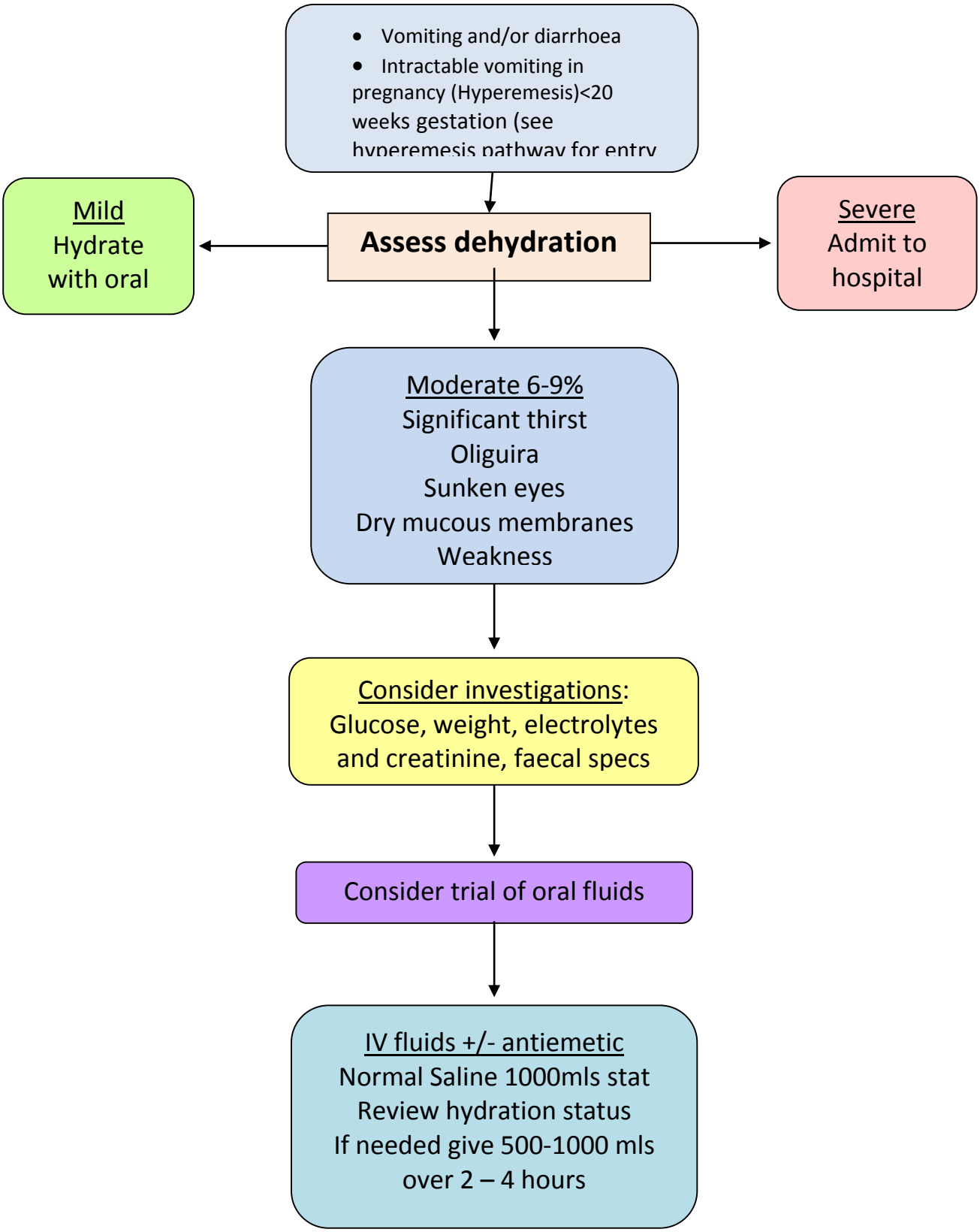
(thanks to Dr Richard Aicken, Starship Hospital)

Child Dehydration Algorithm


Child dehydration vomiting and diarrhoea
Assess level of dehydration
Mild 3% deficit
Moderate 6% deficit
Severe > 9% (not suitable for Primary options)
See criteria for assessment previous page.
Consider management in Primary care if
no signs of shock
older than 2 months
Have had diarrhea less than 7 days
If they are vomiting with no diarrhea, this has been occurring for less than 24 hours
Replace fluid deficit over 2-4 hours with Oral rehydration Solution
Nurse or carer give small amounts frequently ie 5 mls per minute
Review at two hours, to ensure ORS being taken. After four hours review fully.
If rehydrated provide advice to care giver and follow up after 6-12 hours
If there are still signs of dehydration admit to hospital
CONSIDER THE USE OF ONDANSETRON
If oral rehydration is limited by ongoing vomiting in children with gastroenteritis (not with surgical or infective causes of vomiting)
Excluding children <6months old or <8kgs.
Single dose
WEIGHT
DOSE(WAFER)
8-15KG
2MG
15-30KG
4MG
>30KG
8MG

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Adult Dehydration Algorithm



DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

EARLY DISCHARGE SERVICE

Introduction

The Primary Options Programme Northland (POPN) Early Discharge pathway has been designed to reduce admissions from the hospital emergency department and to reduce the number of bed days required for patients within a medical ward.

The service is aimed at patients who have been medically cleared but are not quite well enough to return home. These services are provided short term only. Some examples may be:

- Patients with a complex social situation that is complicated by an acute illness
- Weakness due to illness and requiring convalescence before returning home
- Sudden deterioration and awaiting assessment for increased cares
- Lack of support at home and unable to cope at home alone
- Lives alone and in need of assistance short term
- Patient requires IV therapy but is stable enough to manage in community

Early discharge patient criteria

- Patient can be managed safely in the community
- Patient would otherwise be admitted to hospital, or require additional bed days in hospital
- Medically fit for discharge
- Management plan prepared for when discharged from POPN
- Patient's GP (or nominated deputy), or another GP (ie. residential facility GP, after hours doctor, or A&M doctor) must accept clinical responsibility for the patient. If a GP declines, the patient will remain in hospital.
- Patient provides informed consent
- Patient is a Northland resident enrolled with a Northland PHO
- Funding is not available for the patient via another source

Conditions accepted

The following are examples of (but not limitations to) conditions which may be referred to POPN:

- Cellulitis
- DVT investigation
- Respiratory infection
- Urinary Tract Infection
- Asthma
- Dehydration (including hyperemesis)
- Abdominal pain
- Other acute short term medical conditions

- **ACC patients are not eligible for the Early Discharge Pathway under POPN.**

Services available

- Up to a maximum of three nights residential care
- IV therapy
- GP consultations
- GP/Nurse home visits
- Transportation
- Home help.

Follow-up

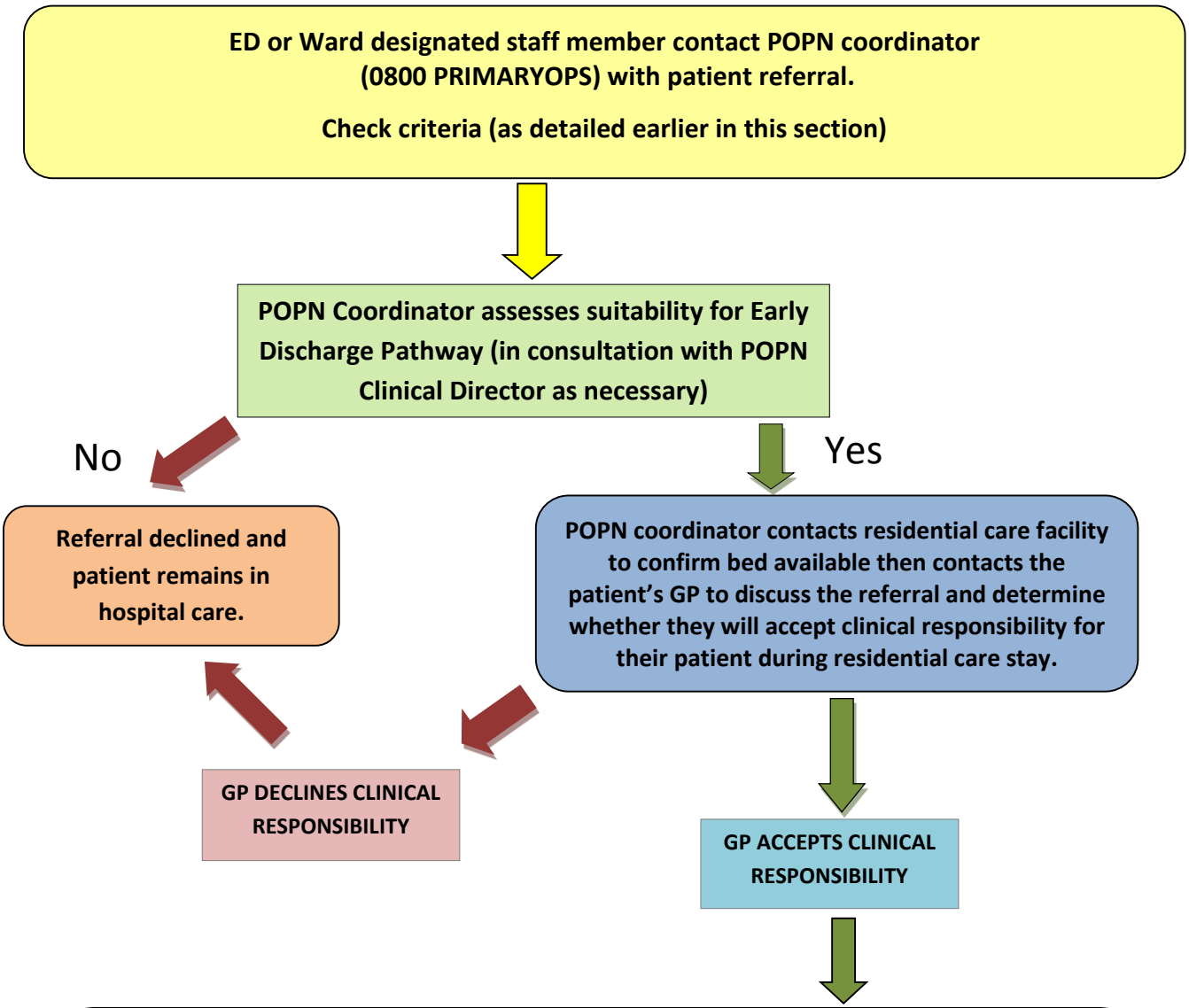
- A follow-up GP appointment must be made on the day of discharge
- If patient deteriorates the service provider will contact the patient's GP or refer back to the hospital
- If an extension of services is required (eg. home support), the service provider will contact POPN directly to discuss

NB: Please also see *Referring Older People*

Primary Options contact details:

Ph: 0800 PRIMARYOPS
Fax: 09 438 3210 / email: primaryops@manaiapho.co.nz
C/- Manaia PHO, PO Box 1878, Whangarei 0140

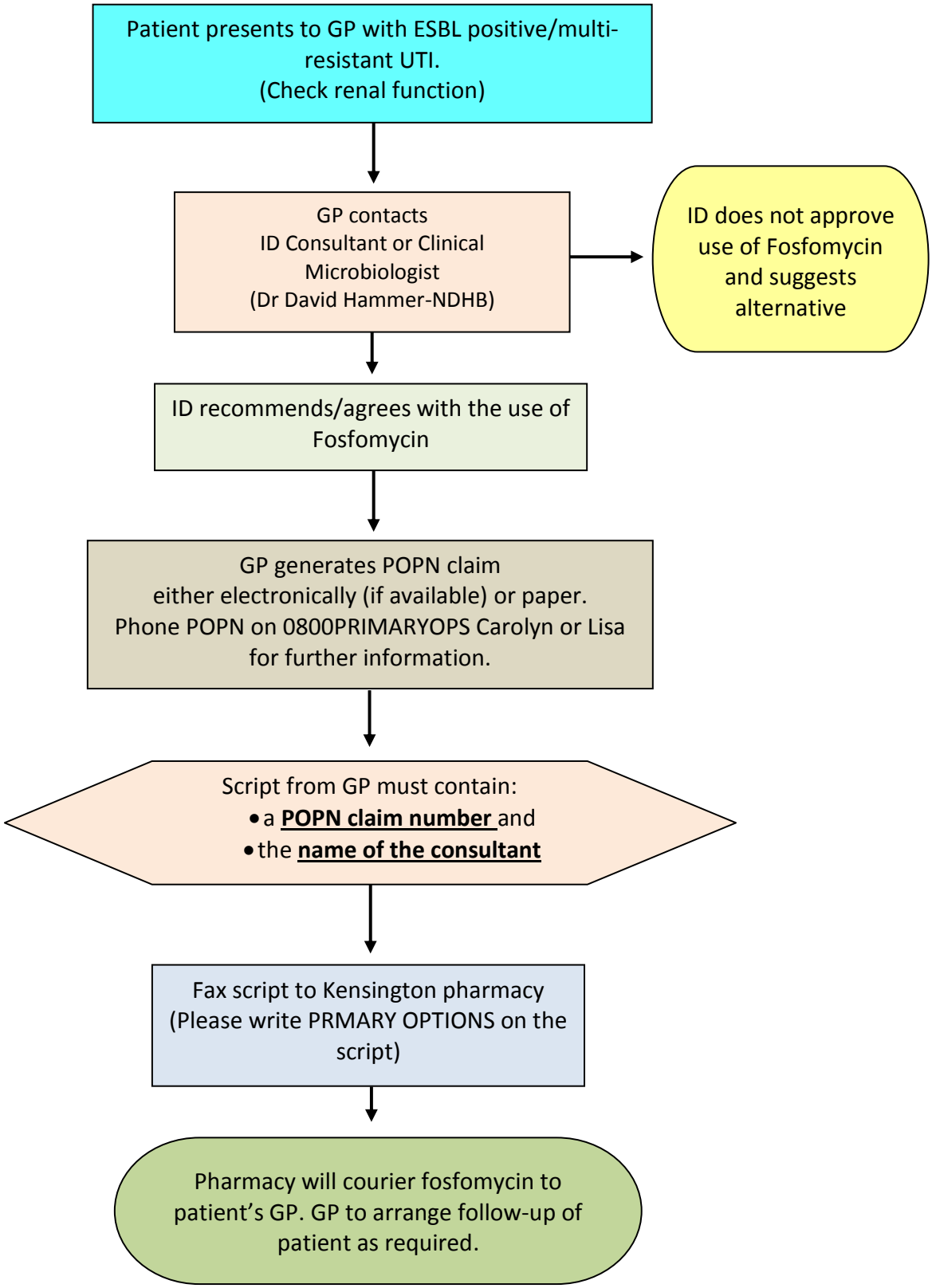
Early Discharge Pathway


ED or Ward designated staff member contact POPN coordinator (0800 PRIMARYOPS) with patient referral.
Check criteria (as detailed earlier in this section)
POPN Coordinator assesses suitability for Early Discharge Pathway (in consultation with POPN Clinical Director as necessary)
No
Yes
Referral declined and patient remains in hospital care.
POPN coordinator contacts residential care facility to confirm bed available then contacts the patient's GP to discuss the referral and determine whether they will accept clinical responsibility for their patient during residential care stay.
GP DECLINES CLINICAL RESPONSIBILITY
GP ACCEPTS CLINICAL RESPONSIBILITY
1. POPN coordinator contacts Residential Care Facility and arranges care for patient.
2. ED/Ward staff fax/email discharge summary to GP (and POPN coordinator) and call GP to discuss handover once POPN have accepted patient
3. Residential care facility faxes medication chart to GP to chart medication.
4. GP charts medication and faxes back to Residential Care Facility, who arrange to obtain required medication from pharmacy and administer to patient.
PATIENT RECOVERS IN 3-DAYS OR LESS AND IS RETURNED HOME
OR, IF CONDITION WORSENS, PATIENT IS REFERRED BACK TO ED/GP

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

FOSFOMYCIN - for patients with multi-resistant UTIs

Algorithm


Patient presents to GP with ESBL positive/multi-resistant UTI.
(Check renal function)
GP contacts ID Consultant or Clinical Microbiologist (Dr David Hammer-NDHB)
ID does not approve use of Fosfomycin and suggests alternative
ID recommends/agrees with the use of Fosfomycin
GP generates POPN claim either electronically (if available) or paper. Phone POPN on 0800PRIMARYOPS Carolyn or Lisa for further information.
Script from GP must contain:
• a POPN claim number and
• the name of the consultant
Fax script to Kensington pharmacy (Please write PRMARY OPTIONS on the script)
Pharmacy will courier fosfomycin to patient's GP. GP to arrange follow-up of patient as required.

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Fosfomycin Treatment for Multi Resistant UTIs

Multi-resistant organisms are an increasing problem in NZ.

Oral *Fosfomycin trometamol* is indicated in the treatment of urinary tract infections due to a gram negative organism that is resistant to commonly prescribed oral antibiotics. For example, oral *Fosfomycin* has been used to treat uncomplicated ESBL positive *E. coli* and *Klebsiella* UTI in primary care thus avoiding an acute hospital admission for IV antibiotics. Gram negative bacilli expected to be *Fosfomycin* resistant include *Morganella*, *Acinetobacter* and *Stenotrophomonas*.

Fosfomycin is not licensed or funded in NZ but is available through POPN at a cost to the patient of approximately $168.31 per dose.

Primary Options will pay:

- the full amount of the drug that would normally be charged to the patient
- an administration fee

Fosfomycin is usually administered as a single (or repeated) oral megadose (ie 3g on day 1 +/- 3g on day 4). Each sachet of *Fosfomycin* should be dissolved in approx half a cup of cool water or juice. It is well tolerated and has a low incidence of harmful side-effects. However, development of bacterial resistance under therapy may occur which makes *Fosfomycin* unsuitable for sustained monotherapy of severe infections.

Fosfomycin is not officially approved in New Zealand and patients need to be informed of this and the possible unwanted effects (Information for patients on POPN website- under patient information) and provided with medication from Kensington pharmacy.

Please send a script to Kensington pharmacy with "Primary Options" marked on it. A phone call to Kensington Pharmacy assists to expedite the process. On dispensing the fosfomycin Kensington pharmacy will provide the patient name to the Ministry of Health as with any unapproved medication.

DRUG PROFILE – FOSFOMYCIN FOR MULTI-RESISTANT UTI

Fosfomycin is not a regisistered medicine in New Zealand and falls under use of unapproved medicine under Section 25 and 29 of The Medicines Act 1981. The patient must be made aware of this and that it is a requirement that information about the supply, including the patient's name, be forwarded to Medsafe by the pharmacy.

Consultant endorsement must be obtained from an ID consultant at NDHB – Dr David Hammer.

(Refer to data sheet for full product information)

FOSFOMYCIN

Contraindications & cautions:
Known hypersensitivity to fosfomycin.

Dosage and Administration:
One sachet containing 5.631 grams of fosfomycin tromethamine equivalent to 3 grams of fosfomycin.
The contents of the sachet must be dissolved in water and may be taken with or without food.

Preparation:
Pour the entire contents of a single dose sachet into half a cup of cold water and stir to dissolve. Do not use hot water. The solution should be taken immediately after dissolving in water.

Drug interactions:
Metoclopramide lowers the serum concentration and urinary excretion of fosfomycin.

Adverse effects:
Most frequently reported:
Diarrhoea, nausea, abdominal pain, dyspepsia.
Headache, dizzinesss, weakness, rhinitis, pharyngitis.
Menstrual pain, back pain, vaginitis.
Asthenia, rash.
Serious adverse events have been rarely reported and include:
Angioedema, aplastic anaemia, asthma (exacerbation), cholestatic jaundice, hepatic necrosis, toxic megacolon.

Warnings
Clostridium difficile associated diarrhoea (CDAD) has been reported and may range in severity from mild diarrhea to fatal colitis.

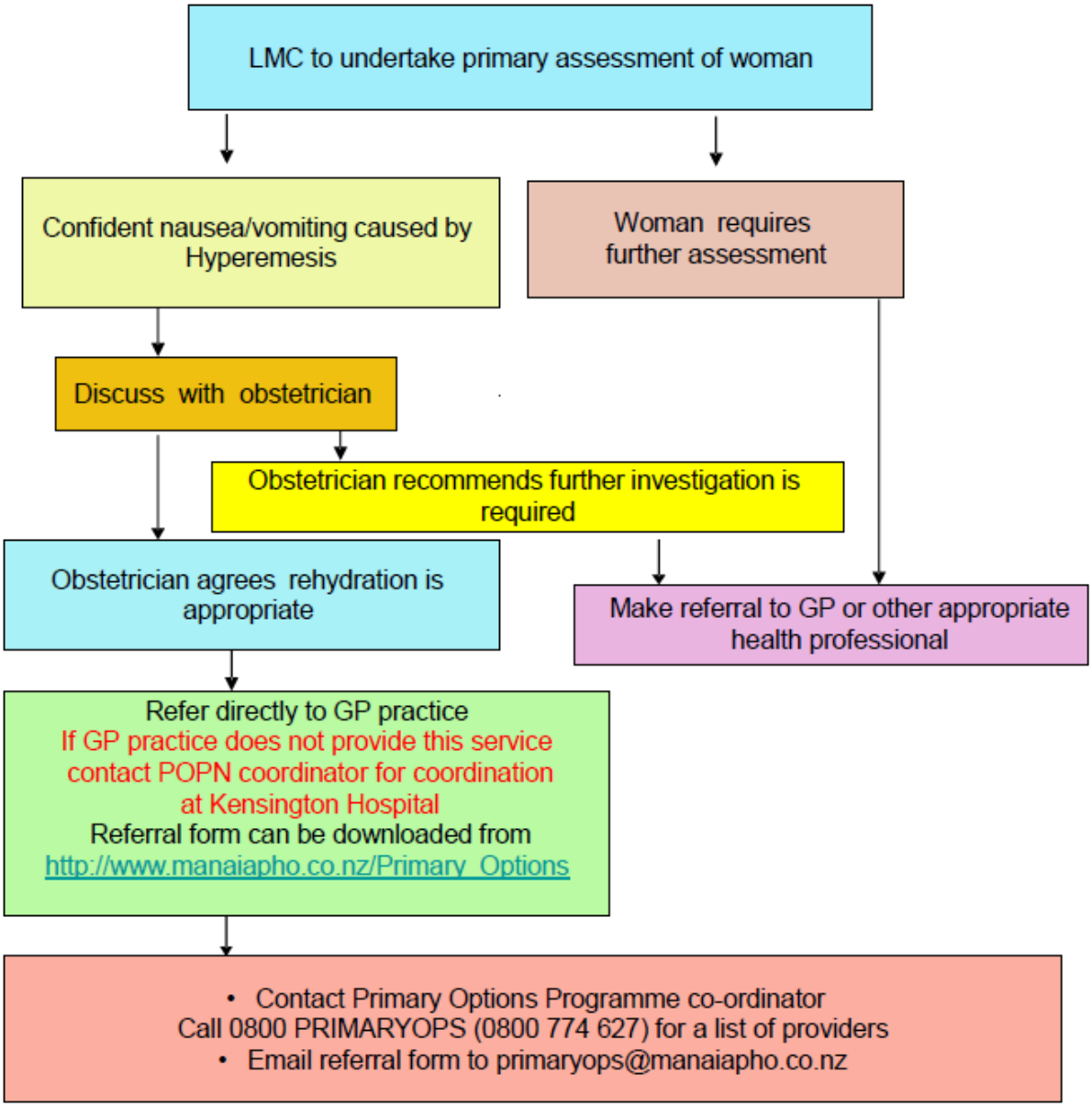
References:

Data Sheet. Monurol (fosfomycin tromethamine) Sachet. www.frx.com/pi/Monurol_pi.pdf

HYPEREMESIS PATHWAY

NORTHLAND PRIMARY HEALTH ORGANISATIONS

Re-hydration of pregnant woman in the community with hyperemesis gravidarum


LMC to undertake primary assessment of woman
Confident nausea/vomiting caused by Hyperemesis
Woman requires further assessment
Discuss with obstetrician
Obstetrician recommends further investigation is required
Obstetrician agrees rehydration is appropriate
Make referral to GP or other appropriate health professional
Refer directly to GP practice
If GP practice does not provide this service contact POPN coordinator for coordination at Kensington Hospital
Referral form can be downloaded from
http://www.manaiapho.co.nz/Primary_Options
• Contact Primary Options Programme co-ordinator
Call 0800 PRIMARYOPS (0800 774 627) for a list of providers
• Email referral form to primaryops@manaiapho.co.nz

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

PAMIDRONATE PATHWAY

Background

In the mid and far North, patients requiring Pamidronate infusions previously required hospital admission in order to receive Pamidronate infusions. The Pamidronate pathway was developed in order to allow patients residing in the mid and far North to access this treatment in primary care through Primary Options Programme Northland.

Patients in the Whangarei area will continue to receive their infusions in an outpatient clinic at Whangarei Hospital.

The Pamidronate pathway has two sub pathways – the Prevention of skeletal events pathway and the Pain pathway. The intention of the Prevention of skeletal events pathway is to prevent skeletal fractures from a metastatic process. The Pain pathway is aimed at reducing the severity of bone related pain from bone metastases. Both pathways are illustrated in the Pamidronate algorithm.

Pamidronate Algorithm

NORTHLAND PRIMARY HEALTH ORGANISATIONS

Primary Options Programme Northland (POPN)

Pamidronate Infusion

Patient identified by their GP as suitable for monthly Pamidronate Infusions for either management of pain (Pain Pathway) or for preventation of skeletal events (Prevention of Skeletal Events Pathway), can be safely managed in the community and meets inclusion criteria

↓

Required Investigations: eGFR, serum creatinine, dental check

↓

Therapy:

- Dosage – 90mgs 4-6 weekly by slow intravenous infusion – see drug profile for recommendations.
- Consider administering Dexamethasone 3 days prior to initial dose only. 4mg/3 days in order to dampen down possible inflammation.

↓

Exit Criteria

- Poor renal function eGFR<60
- Active dental disease
- Patient declines further treatment

+ for Prevention of Skeletal Events Pathway

- Performance status >2 i.e. wheel chair bound, not ambulatory – consider Pamidronate pain pathway

+ for Pain pathway

- After 2 years of Pamidronate treatment take a rest period of 6 months

Inclusion Criteria

- Dental assessment prior to initial infusion
- Good renal function - eGFR > 60

And must have one of the following:

1. Prostate cancer - with bone metastases
2. Breast cancer - with bone metastases
3. Lung cancer - with bone metastases
4. Multiple myeloma - with bone lesions

+ for Prevention of Skeletal Events pathway

- Must have a good prognosis i.e. > 6 months expected lifespan
- Have received a recommendation from oncologist or haematologist

+ for Pain pathway

- Other conditions considered after consultation with Palliative care Consultant
- Documented metastatic bone disease

Exclusion Criteria

- Active dental disease
- Previous anaphylaxis to Pamidronate

+ for Prevention of Skeletal Events pathway

- Performance status [1] >2 i.e. wheel chair bound, not ambulatory

On-going requirements

- eGFR checked prior to each infusion
- Assessment for dental disease (6 monthly or annually as recalled by dentist) Please note: Endentulous patients do require a dental check.
- Patients who don't have a regular dentist may be referred to DHB dental services.

+ for Prevention of Skeletal Events Pathway

- Performance status [1] documented 6 monthly

Suitable for management at home?

- Satisfactory IV access
- Home environment safe
- Adequate social supports
- Access to telephone

[1] **ECOG Performance status:**

0 Fully active, able to carry on all pre-disease performance without restriction
1 Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work
2 Ambulatory and capable of all self care but unable to carry out any work activities. Up and about more than 50% of waking hours
3 Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
4 Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair

Oken, M.M., Creech, R.H., Tormey, D.C., Horton, J., Davis, T.E., McFadden, E.T., Carbone, P.P.: Toxicity And Response Criteria Of The Eastern Cooperative Oncology Group. Am J Clin Oncol 5:649–655, 1982

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Pamidronate Drug Profile

DRUG PROFILE – PAMIDRONATE

For use in Pain Pathway or Prevention of Skeletal Event Pathway

(Refer to data sheet for full product information)

PAMIDRONATE

Contraindications & cautions:
Known hypersensitivity to pamidronate or to other bisphosphonates
Renal impairment
Pre-existing hypocalcaemia
Active dental disease.

Renal Function:
Assess renal function before each dose.
eGFR > 60 for inclusion in pathways.
Ensure adequate hydration.

Dosage and Administration:
90 mg every 4 - 6 weeks.
By slow intravenous infusion (via cannula in a relatively large vein to minimize local reactions at infusion site).

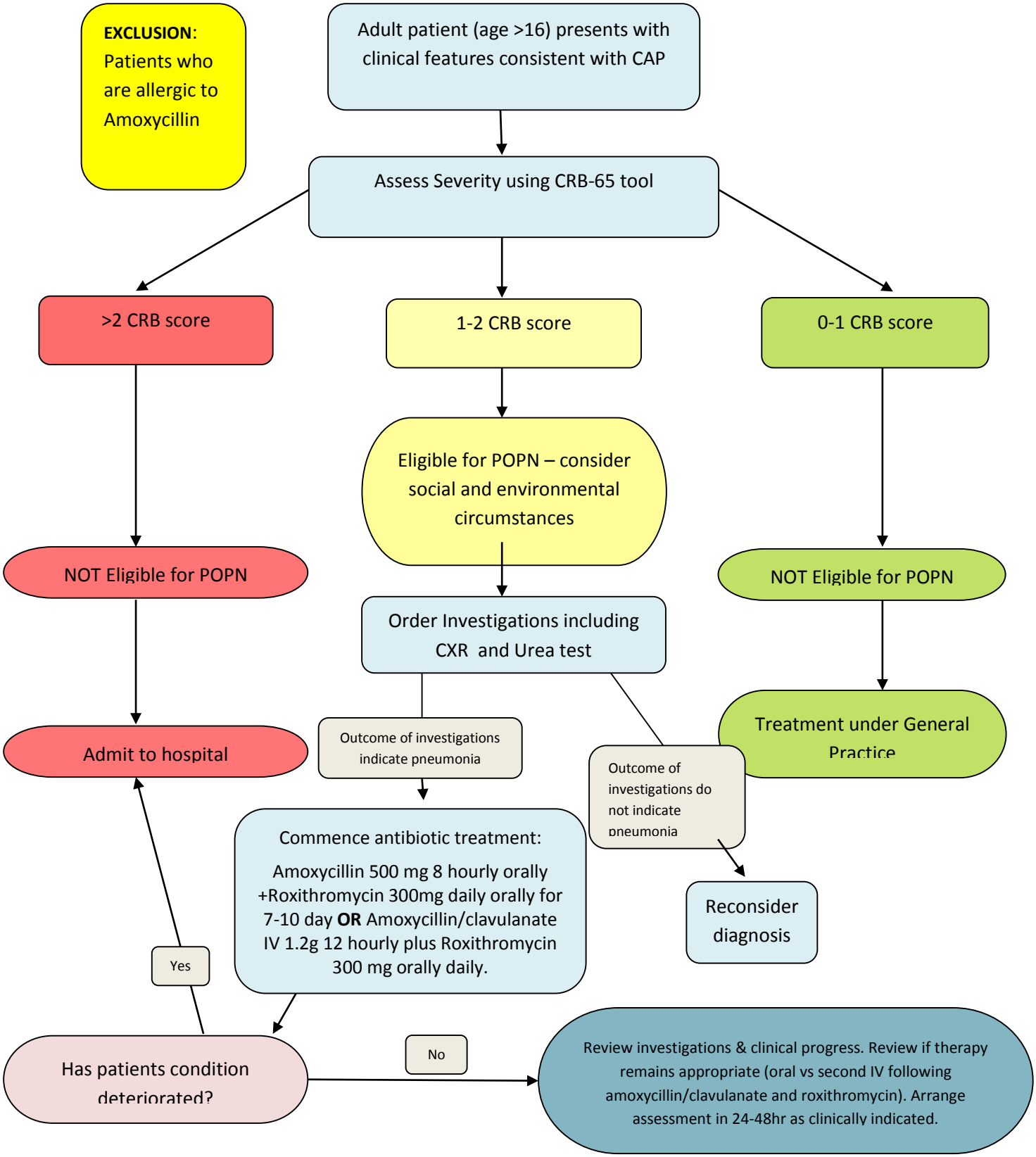
Reconstitute each vial with a calcium – free infusion solution (0.9% sodium chloride of 5% glucose). The infusion rate should not exceed 60mg/h (1mg/min) and the concentration of pamidronate in the infusion fluid should not exceed 90mg / 250ml.

In breast cancer patients, 90mg in 250ml should be infused over 2 hours.
In multiple myeloma patients, it is recommended not to exceed a concentration of 90mg in 500ml administered over 4 hours.

Adverse effects:
Most commonly reported:
Asymptomatic hypocalcaemia, pyrexia, influenza-like symptoms.
Local reaction at infusion site.
Other:
Hypophosphataemia. Symptomatic hypocalcaemia.
Nausea, vomiting, anorexia, abdominal pain, diarrhoea, constipation, gastritis.
Headache, insomnia, drowsiness.
Hypertension, arthralgia, myalgia, bone pain. Atrial fibrillation.
Anaemia, thrombocytopenia, lympocytopenia. Conjunctivitis.
Osteonecrosis of the jaw.
Atypical fractures of femur.
Haematuria, acute renal failure, deterioration of pre-existing renal disease. Reactivation of herpes simplex or zoster.
Allergic reactions including anaphylactoid shock.

References:
Data sheets. Pamidronate BNM. http://www.medsafe.govt.nz
New Zealand Pharmaceutical Schedule. URL: http://www.pharmac.govt.nz
New Zealand Formulary, v16 – 1 October 2013. http://nzf.org.nz

PNEUMONIA – (COMMUNITY ACQUIRED PNEUMONIA)
Algorithm


EXCLUSION: Patients who are allergic to Amoxycillin
Adult patient (age >16) presents with clinical features consistent with CAP
Assess Severity using CRB-65 tool
>2 CRB score
1-2 CRB score
0-1 CRB score
Eligible for POPN – consider social and environmental circumstances
NOT Eligible for POPN
NOT Eligible for POPN
Order Investigations including CXR and Urea test
Admit to hospital
Outcome of investigations indicate pneumonia
Outcome of investigations do not indicate pneumonia
Treatment under General Practice
Commence antibiotic treatment:
Amoxycillin 500 mg 8 hourly orally +Roxithromycin 300mg daily orally for 7-10 day OR Amoxycillin/clavulanate IV 1.2g 12 hourly plus Roxithromycin 300 mg orally daily.
Reconsider diagnosis
Yes
Has patients condition deteriorated?
No
Review investigations & clinical progress. Review if therapy remains appropriate (oral vs second IV following amoxycillin/clavulanate and roxithromycin). Arrange assessment in 24-48hr as clinically indicated.

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Investigation and Management of Community Acquired Pneumonia

Patients with **SEVERE** pneumonia are not eligible for POPN funding as management in the primary setting is considered unsafe.

Patients with **MILD** pneumonia are not eligible for POPN funding as management in the primary setting is not considered appropriate as they would normally be managed by their GP.

Patients with a **MODERATELY** severe pneumonia are potentially eligible for POPN funding provided that management can be undertaken safely.

Ref "POAC guideline on the assessment and management of moderately severe Adult Community Acquired Pneumonia"

Guideline on the Assessment and management of moderately severe adult community acquired pneumonia

1. Aetiology and Epidemiology

No organism is identified in 20-40% of cases

- ***Streptococcus pnuemonaie*** is the most commonly identified organism (especially in winter and in crowded settings)
- ***Mycoplasma pnuemonaie*** is more common in epidemics
- ***H influenzae*** is more common in COPD and those over 65
- **Influenza virus** ((more common in the winter)
- ***Staphylococcus aureus*** *(*uncommon) occurs more in the winter and may be associated with the influenza virus. It causes severe illness with a high mortality.
- ***Gram negative enteric bacilli*** are uncommon
- ***Legionella***
- Atypical pathogens include ***Mycoplasma pneumonia, Chlamydophilia pneumonae & Chlamydophilia psittaci*** (the latter is uncommon) ***Mycoplasma*** is more common during epidemic periods.
- Aspiration is a risk in the elderly (especially in Residential Care Facilities) – 10% have coincidental ***S aureus****;* usually multiple organisms including anaerobes.
- Bacteraemia is more common in diabetics.
- With severe illness ***Legionella*** and ***Staphylococcal*** infections are more common
- **Moraxella catarrhalis.**

Ref "POAC guideline on the assessment and management of moderately severe Adult Community Acquired Pneumonia"

CLINICAL ASSESSMENT OF SEVERITY

Assessment of severity is crucial to the safe management of CAP

POPN use a CRB /CURB tool to assess severity.
Selecting the most appropriate site of care is the single most important decision in the overall management and is to a large extent determined by the severity of the patient's illness. An accurate assessment of severity requires clinical judgment, which in turn depends on the experience and skill of the clinician.

CAP is a serious disease with a significant mortality. Recovery will be determined by appropriate and timely intervention. There is a need for ongoing vigilance as deterioration can occur rapidly.

Note also the following points:
AGE: Age over 65 is in the exclusion criteria for POPN. However fitness may not be related to age directly. Therefore if the clinician considers the over 65 yr old to be fit and no other high severity exclusion factors are present then POPN will allow CAP to be funded at the clinician's own risk.. Be aware that by including this severity factor that the mortality rate increases to 3-5%. Therefore extra vigilance and close monitoring will be essential.

UREA: If a recent result is available it should be used in the severity assessment. Otherwise it should be included in the requested lab test and used at reassessment. Note: If the urea is >7mmoll/l, and the age is over 65 the mortality rate rises up to 9% and referral to hospital should be given serious consideration.

Differential diagnosis:

- Influenza
- Asthma and COPD
- Pleurisy
- Bronchiectasis
- Pneumothorax
- CHF and Cardiac Ischaemia
- Pulmonary Embolism
- Lung Cancer and other Lung Pathologies
- Inhaled Gastric Contents & Foreign Bodies.
- Tuberculosis

CLINICAL FEATURES

- The aim is to identify the 5-12% with moderate community acquired pneumonia from the majority with acute non-pneumonic lower respiratory tract infections or other diagnoses.
- This is particularly difficult in the presence of co-morbid illnesses such as LVF, chronic lung disease or COPD and those over 65 yrs of age who frequently present with non-specific symptoms and an absence of chest signs.
- Making an accurate diagnosis of CAP therefore requires an x-ray
- The aetiological agent causing CAP cannot be accurately predicted from clinical features.
- Pneumonia can present atypically in as many as 22% and this can lead to diagnostic uncertainty.
- Remember to ask about occupation, travel and hospitalization within the last two weeks.
- Hobbies (e.g bird keeping, gardening with potting mix)
- Of note, bacteraemic pneumococcal pneumonia is more likely if one of the following features is present
    - Female
    - History of no cough or a non productive cough
    - Excess alcohol
    - Diabetes mellitus
    - COPD
    - New onset confusion.

POPN notes should include HR, RR, O2 sats, temp, chest auscultation notes, clinical picture.

Please refer to the World Health organization guidelines for the diagnosis of pneumonia.

POPN recommends the CURB-65 (confusion, urea, respiratory rate, blood pressure, age) assessment tool to assess the severity of the patients CAP. A score of 1-2 under the CURB tool would indicate moderate pneumonia which would be eligible for funding under POPN if the patient fits the criteria. Social circumstances must also be considered when making the assessment (urea levels may not be available).

CURB -65 Assessment Tool

Risk factors

- Confusion
- Urea >7mmol l/l (Blood Urea Nitrogen >19)
- Respiratory rate > 30 Breaths per minute
- Blood pressure < 90 mmHg systolic or 60mmHg diastolic
- Age 65 or older

Scoring – Each risk factor scores one point, for a maximum score of 5

Analysis

Score	Mortality
0	0.7%
1	3.2%
2	13%
3	17%
4	41.5%
5	57%

2. Management (when eligible for POPN i.e. 1-2 severity)

Day one

- Urgent chest x-ray with rapid reporting (same day , latest next morning0
- Urgent lab tests: CBC, Urea, Electrolytes, Glucose, LFT and CRP
- Advise rest, avoiding smoking, adequate fluids and nutrition
- Consider rest home placement for suitable short term observation under POPN
- Confirm caregiver and arrange for follow up within 24 hours
- Start antibiotic therapy as appropriate (see below)

Day two

- Review investigations and clinical progress
- Review of therapy is appropriate (oral or second IV)
- Admit to hospital if condition has deteriorated

Day three - four

- Assess if stable on oral therapy (or if had a second IV, ready to switch to oral)
- Admit to hospital if condition has not improved

Day five – if indicated

- Review progress
- Admit to hospital if condition has not improved
- Arrange to follow up with chest x-ray at 6 weeks.

3. ANTIBIOTIC THERAPY

Low risk patients: Amoxycillin 500 mg 8 hourly + Roxithromycin 300mg daily for 7-10 days

Smoking or CORD patients (+higher risk): Amoxycillin/clavulanate IV 1.2g 12 hourly plus oral roxithromycin 300mg
or
Amoxycillin/clavulanate 500mg /125mg orally 8 hourly **plus** roxithromycin 300 mg daily.

If the patient is allergic to these antibiotics they are not eligible for Primary Options.

FOLLOWED BY ORAL ANTIBIOTICS AS ABOVE.

Please note:

- Monotherapy is usually successful however atypical coverage is also appropriate to cover (with roxithromycin).

- 12 hourly IV antibiotics may not be practical therefore IV treatment may be resumed following oral therapy if the patient may benefit from this following clinical judgement e.g. the first dose of IV abs given in surgery then oral dose at home in the evening and back in the morning for another IV dose.

Please refer to drug profile page.

LOW SEVERITY COMMUNITY ACQUIRED PNEUMONIA

Clinical judgement is essential with individual management based on all the clinical information available at the time.

The following are important prognostic factors which could increase the level of concern even if the clinical features suggest a low severity illness.

- Over 65 years
- Bedridden
- Residential care
- Co-morbid illnesses

- Initial treatment is considered standard general practice and so it is not eligible for POPN funding. If the patients condition subsequently deteriorates to moderately severity then a POPN claim can be initiated.

- There will most likely be fever, cough and new focal chest signs suggesting CAP with other diagnoses being unlikely.

- Social circumstances must be considered.

Drug Profiles – Community Acquired Pneumonia

(Refer to data sheet for full product information)
(Discuss with specialist in cases of pregnancy)

AMOXYCILLIN / CLAVULANATE
Contraindications & cautions:
Hypersensitivity to β-lactams, history of amoxycillin/clavulanate associated jaundice, infectious mononucleosis, hepatic dysfunction.
Caution in hepatic, renal impairment.

Dosage and Administration:
500 mg orally every 8 hours.

Adverse Effects:
GI upset, mucocutaneous candidiasis, superinfection (less common).
Rare: haematological changes, prolonged prothrombin time, pseudomembranous colitis, hepatitis, cholestatic jaundice, hypersensivity reactions, crystalluria, convulsions.

ROXITHROMYCIN
Contraindications & cautions:
Hypersensitivity to macrolides, concomitant ergot alkaloids.
Caution in hepatic failure, pregnancy.

Dosage and Administration:
300mg orally daily, at least 15 minutes before food or on an empty stomach, swallowed whole with a drink.

Adverse Effects:
Nausea, vomiting, abdominal pain, diarrhoea, pancreatitis, hypersensitivity, hepatic dysfunction, central or peripheral nervous system events, fungal overgrowth.

DOXYCYCLINE
Contraindications & cautions:
Hypersensitivity to tetracyclines, severe renal insufficiency, pregnancy.
Caution in renal impairment.

Dosage and Administration:
100 mg orally twice daily, with plenty of fluid.

Adverse Effects:
Dizziness, vertigo, superinfection,
GI disturbances, skin reactions, haematological effects, renal toxicity, hypersensitivity reactions.
Rare: oesophageal ulceration, tooth discolouration, benign intracranial hypertension, hepatic failure.

PYELONEPHRITIS – ADULT PYELONEPHRITIS PATHWAY

Adult Pyelonephritis Algorithm

NORTHLAND PRIMARY HEALTH ORGANISATIONS

Primary Options Programme Northland (POPN)
Acute pyelonephritis pathway

Patient presents with symptoms of pyelonephritis (fever, chills, flank pain, costavertabral angle tenderness, dysuria, frequency, nausea vomiting)

↓

Investigations: MSU, urine dipstick, urine pregnancy test, eGFR, consider FBC

↓

Therapy: Consider IV fluids, analgaesia, antiemetics
Give one dose Gentamicin 3mg/kg iv or Amoxycillin/clavulanic acid iv and send home on oral antibiotics (see below for antibiotic selection)
Review within 24h - check results, clinical examination of patient

↓

Has patient improved?

Yes

If improved
- Continue oral antibiotics (could give further dose of iv antibiotics if improved but still vomiting and unable to tolerate orals.
If second dose of gentamicin is given must have checked eGFR)
If given Gentamicin then give Ciprofloxacin 250mg-500mg bd for 7 days. If given Amoxicllin/clavulanic acid then give oral Amoxicllin/clavulanic acid 500/125mg 8 hourly for 14 days
Followup MSU at day 14

No

If not improved then refer to ED

Inclusion Criteria
Clinical features of pyelonephritis including flank pain or tenderness and fever ≥38°, positive leucocytes and/or positive nitrites on dipstick
Female 16-70
Non pregnant
Clinically stable, no co-morbidities requiring admission

Exclusion Criteria
Male
Female < 16 or > 70
Pregnant
Vomiting and unable to maintain oral intake
Bilateral pyelonephritis
Diabetes
Immunocompromised
Hospital acquired UTI
UTI post instrumentation
Catheter in-situ
Evidence of sepsis including
- Fever > 39°
- Tachycardia > 110
- BP systolic < 100
- Postural drop > 15mmHg
- Confusion/delirium

Suitable for management at home?
- Satisfactory IV access
- Home environment safe
- Adequate social supports
- Access to telephone

*****Caution if using Gentamicin****
Impaired renal function eGFR<60
Previous ototoxicity or vestibular toxicity to any aminoglycoside (avoid)
Prior or current other renal disease including
*Renal transplant
*Single or dominant kidney
*Anatomic anomaly
*Prior reconstructive surgery
*Known renal scarring

* Dose adjustment may be required especially for subsequent doses. **Gain specialist advice.**

DISCLAIMER: This guideline is intended to assist clinical decision making and provide General Practitioners with guidance on the appropriate use of the Primary Options Programme Northland services. It is not entirely inclusive or exclusive of all methods of reasonable care. It should not replace clinical judgement in managing each individual patient.

Adult Pyelonephritis Pathway

Presentation:
Symptoms suggestive of pyelonephritis (fever, chills, flank pain, costo-vertebral angle tenderness, urinary symptoms (dysuria, frequency), nausea, vomiting

Investigations:
MSU, urine dipstick, urine pregnancy test, eGFR, consider FBC

Inclusion criteria:
Clinical features of pyelonephritis including flank pain or tenderness and fever ≥38°, positive leucocytes and/or positive nitrites on dipstick

Uncomplicated pyelonephritis

- Female 16-70
- Non pregnant
- Clinically stable, no co-morbidities requiring admission

Suitable for management at home?

- Satisfactory IV access
- Home environment safe
- Adequate social supports
- Access to telephone

Exclusion criteria
Male
Female < 16 or > 70
Pregnant
Vomiting and unable to maintain oral intake
Bilateral pyelonephritis
Diabetes
Immunocompromised
Hospital acquired UTI
UTI post instrumentation
Catheter in-situ
Evidence of sepsis including

- Fever > 39°
- Tachycardia > 110
- BP systolic < 100
- Postural drop > 15mmHg
- Confusion/delirium

Caution if using gentamicin*
Impaired renal function eGFR<60
Previous ototoxicity or vestibular toxicity to any aminoglycoside (avoid)
Prior or current other renal disease including

- Renal transplant
- Single or dominant kidney
- Anatomic anomaly
- Prior reconstructive surgery
- Known renal scarring

* Dose adjustment may be required especially for subsequent doses. Gain specialist advice.
Uncomplicated Pyelonephritis Pathway

Consider IV fluids, analgaesia, antiemetics
Give one dose Gentamicin 3mg/kg iv or Amoxicillin/clavulanic acid iv and send home on oral antibiotics (see below for antibiotic selection)
Review within 24h - check results, clinical examination of patient - if improved then continue oral antibiotics (could give further dose of iv antibiotics if improved but still vomiting and unable to tolerate orals. If second dose of gentamicin is given must have checked eGFR):
If given Gentamicin then give Ciprofloxacin 250mg-500mg bd for 7 days
If given Amoxicllin/clavulanic acid then give oral Amoxicllin/clavulanic acid 500/125mg 8 hourly for 14 days
Followup MSU at day 14

If not improved at review then refer to ED

ED Un-complicated Pyelonephritis Pathway
Patient presents to ED, has uncomplicated pyelonephritis, initial treatment as above and then referred to GP for review the next day. Given voucher for free visit.

POPN will pay for antibiotics in general practice, followup visit, and giving IV fluids/antibiotics/analgesia/antiemetics and observation time.

ZOLEDRONIC ACID: IV ADMINISTRATION OF

Zoledronic acid, also known as zoledronate, is a bisphosphonate that is administered intravenously as a 5mg/100ml ready to use infusion once a year. This medicine is now funded in the community for the treatment of osteoporosis. Patients who meet the Special Authority criteria can be prescribed this agent.

Applications for subsidy by Special Authority can be made by any relevant medical practitioner. Funding of the infusion does not include the cost of administration. This can be covered by Primary Options provided that the patient meets the eligibility criteria as detailed below.

For practices that are unable to provide this service, please contact the POPN coordinator who will arrange an alternative provider for the IV administration.
The referral form for this process can be found in the appendices of the Primary Options Manual.

Patient Eligibility:

Patients must:

- Be eligible for funding under Special Authority criteria.
- Have been trialled on oral bisphosphonates and be shown to be intolerant due to GI side-effects.
- Not currently taking oral bisphosphonates.
- Not have an allergy to bisphosphonates.
- Have an eGFR > 35 ml/min.
- Be normocalcaemic (2.0 – 2.6 mmol/L)
- Have adequate levels of vitamin D as a deficiency can result in severe hypocalcaemia post infusion.

Pre-Infusion Recommendations:

- Check eGFR and confirm no significant renal impairment.
- Check serum calcium and confirm that it is within normal range.
- Check status of oral health.
- Check vitamin D supplementation, and if not been taken, commence with
  - one tablet of 1.25mg cholecalciferol (vitamin D) to be taken in the week prior to infusion.
- Withhold diuretics and NSAIDs the morning of infusion to help prevent temporary renal impairment.
- Advise patients to drink an extra 2 glasses of fluid on day of infusion to ensure good hydration.
- Warn patients of 30% risk of flu-like symptoms (fever, chills, muscle, bone and joint pain, nausea, fatigue and headache) within 3 days of infusion

Post Infusion Recommendations:

- Advise patients to maintain an adequate fluid intake.
- Prescribe paracetamol or ibuprofen to reduce flu-like symptoms.
- Continue vitamin D supplementation by prescribing one tablet of 1.25mg cholecalciferol (vitamin D) once a month or two tablets of multivitamins daily.

Patient Information Leaflet:

Refer to website (WWW.MANAIAPHO.CO.NZ – PRIMARY OPTIONS) for a copy of this document.

Checklist - Zoledronic Acid Infusion (Aclasta ®)

	CHECK LIST	RESPONSE
1.	Has patient met eligibility criteria?	Yes No
2.	Has patient been instructed to stop oral bisphosphonate tablets (if currently taking them)?	Yes No
3.	Is patient's eGFR > 35 ml/min?	Yes No
4.	Is patient on vitamin D or had a pre-infusion dose of vitamin D?	Yes No
5.	Is patient's serum calcium normal?	Yes No
6.	Is the patient's oral health normal?	Yes No
7.	Has patient read the patient information sheet and had questions answered?	Yes No

Drug Profile – Zoledronic Acid (Aclasta ®)

(Refer to data sheet for full product information)

Contraindications:
Known hypersensitivity to zoledronic acid or other bisphosphonates.
Hypocalcaemia.
Pregnancy and lactation.

Renal Impairment:
Do not use in patients with severe renal impairment:
eGFR < 35 ml/min

Special Precautions:
Caution in patients taking medications that cause renal impairment, and patients taking non-steroidal anti-inflammatory drugs and diuretics.

Dosage and Administration:
A single intravenous infusion of 5 mg zoledronic acid in a 100ml aqueous solution.
The solution is infused intravenously, via a vented infusion line, at a constant rate for not less than 15 minutes. Infusion may be given more slowly, up to 30 minutes, in older patients.

Instructions for Use and Handling

- Prepare ready to use infusion by removing vial cap, inserting IV administration set with vent/needle, prime tubing.
- Check solution is clear, free from particles and discolouration.
- Do not mix or give with any other medication.
- Single use only. Discard any unused solution.
- Flushing of line is recommended.

Adverse effects:
Fever, myalgia, flu-like symptoms, chills, arthralgia, headache, malaise, fatigue, bone pain, pain in extremities.

GI upset -nausea, vomiting, anorexia, abdominal pain, diarrhea, constipation.

Dizziness, tremor, peripheral oedema.

Local reaction at infusion site including redness, swelling, pain.

Conjunctivitis, eye pain, iritis.

Hypocalcaemia. Osteonecrosis of the jaw.

Anaphylaxis, renal failure.

NOTE: RENAL FUNCTION

eGFR can be used for drug dose adjustment for most patients of average height and weight, except for potentially toxic drugs with small safety margin, critical-dose drugs with narrow therapeutic index, in elderly, frail patients and those at extremes of the weight range. In these cases use absolute GFR or creatinine clearance.

Creatinine Clearance (ml/min) = $\frac{(140\text{-age}) \times \text{body weight}^{*}\ (\text{kg})}{0.815 \times \text{serum creatinine (micromol/L)}}$ (multiply by 0.85 for females)

* Use lean body weight (LBW) for obese patients.

LBW (males) = 50 kg + 0.9 kg for each cm over 150 cm in height

LBW (females) = 45 kg + 0.9 kg for each cm over 150 cm in height

References

Automatic eGFR reporting – its role in screening for kidney disease and drug-dosing decisions. Rational Assessment of Drugs and Research. August 2008.

British National Formulary (BNF). BMJ Publishing Group and Royal Society of Great Britain. September 2008

Zoledronic acid (ACLASTA ®) Data sheet. URL: http://www.medsafe.govt.nz

New Zealand Pharmaceutical Schedule. URL: http://www.pharmac.govt.nz

Renal Update. Best Practice Journal, Issue 6, June 2007.

Patient Information Sheet – Zoledronic Acid Infusion (Aclasta ®)

Zoledronic acid (also known as zoledronate or Aclasta) is the most potent medicine in the bisphosphonate class currently available. Bisphosphonates work by preventing resorption of bone by inhibiting the function of bone-dissolving cells called osteoclasts.

Bisphosphonates are commonly used in the treatment of osteoporosis and is also used for preventing some forms of cancer from spreading in bone.

Zoledronic acid is given by intravenous infusion (into a vein in the arm via a "drip") over about 15 – 30 minutes and can be given each 12 – 24 months as needed for treatment of osteoporosis.

Zoledronate increases the bone density in patients with osteoporosis, to about the same extent as other medicines such as alendronate (Fosamax), and is effective at reducing fracture rates, by 35-70%.

Other than flu-like symptoms after the first infusion, side effects from zoledronate treatment are uncommon, and in general no different form placebo-treated patients in randomised trials. It should be remembered that major fractures can be very dangerous, so this should be balanced against the small risk of ill effects from treatments. Treatment is usually accompanied by some vitamin D tablets given at the time of the infusion, to keep blood calcium levels normal.

Side effects with zoledronate include:
1.About 30% of individuals may experience a flu-like feeling after their first treatment, which usually last 24-72 hours, but can occasionally go on for longer, sometimes with associated muscle or joint aching. This usually responds to regular paracetamol or ibuprofen. The chance of this side effect occurring after the second or third zoledronic acid infusions is much lower (about 3-4%).

2.Individuals with severe pre-existing kidney damage can sometimes experience deterioration in their kidney function after the administration of zoledronate. Its normal practice not to use zoledronate in people whose kidneys are not functioning well.

3.Very rarely, drugs in the bisphosphonate class can cause eye inflammation.

Unproven side effects with zoledronate include:
1.Osteonecrosis of the jaw (ulceration in tooth socket or the gums, observed in a small number of cancer patients receiving high-dose treatment but not increased in those treated for osteoporosis or Paget's disease).

2. Atrial fibrillation (an abnormal heart rhythm noted by one group of overseas investigations but not seen in other clinical trials).

3.Upper leg fractures (reported in isolated cases by doctors in Singapore and the USA, but not clearly related to bisphosphonate therapy).

If you have any other questions about this medicine, or your bone condition, you should feel free to ask your doctor or nurse.

NORTHLAND PRIMARY HEALTH ORGANISATIONS

Primary Options Referral Form – Zoledronic Acid Infusion

Patient information		**Date of referral:**
Surname:	**First name:**	**NHI:**
Address:		**Home phone:** **Mobile:**
Ethnicity:	**DOB:**	**Male / Female** (please circle)
Reason for referral to Primary Options:		
		Fractures? Y / N

Essential data

1. **Serum creatine _____eGFR_____ Date of test _____/_____/_____**
2. **Serum calcium _____ Date of test _____/_____/_____**
3. **Is the patient on vitamin D? Y / N**
4. **Special Authority Number: _____**

Referring GP information

GP name:	**NZMC Number:**
Practice Name:	**Practice Phone:**
Practice address:	

GP signature: X _____

NOTE: REFERRAL WILL NOT BE ACCEPTED IF IT HAS NOT BEEN SIGNED BY REFERRING GP

By signing this form I agree to abide by the Primary Options Terms and Conditions. I declare this patient has been informed and consent provided and that the patient understands the information on this form and other information relating to this illness will be made available to any sub-contracted health providers. (Primary Options Patient Information Brochure should be provided to the patient.)

Referral Claim Form

NORTHLAND PRIMARY HEALTH ORGANISATIONS

Primary Options Programme Northland (POPN)

Referral Claim Form

All relevant clinical notes must accompany this form

For patients residing in the Northland district only

Date of referral:		
Part 1: Patient and Referrers information complete and fax to 09 438 3210 within 24 hours		
Surname:	**First name:**	**NHI:**
Address:		**Home phone:** **Mobile:**
Ethnicity:	**DOB:**	**Male / Female** **(please circle)**

Reason for referral to Primary Options: _____

This service is available to patients who would otherwise be referred acutely to hospital. ACC or maternity funded conditions are **NOT** covered by Primary Options.

For ultrasound appointments, respite care or home assistance please phone Primary Options Programme Northland Coordinator on 0800 PRIMARYOPS (0800 774 627) to arrange services for you.

Referrers (GP/RN/NP) Name:	**NZMC Number:**
Organisation Name:	**Organisation Phone:**
Organisation address:	

Referrers signature: X _____

NOTE: REFERRAL WILL NOT BE ACCEPTED IF IT HAS NOT BEEN SIGNED BY REFERRING GP

By signing this form I agree to abide by the Primary Options Terms and Conditions. I declare this patient has been informed and consent provided and that the patient understands the information on this form and other information relating to this illness will be made available to any sub-contracted health providers. (Primary Options Patient Information Brochure should be provided to the patient.)

This episode of care can be managed **within $400** (ultrasound additional) or as per the Cellulitis Fee Schedule (or as approved by the Primary Options Programme Coordinator). A copy of the Cost Management Policy is available upon request.

Outcome Form

NORTHLAND PRIMARY HEALTH ORGANISATIONS

Primary Options Programme Northland (POPN)

Outcome Form

Patient Name:	**NHI:**
Referrers Name:	**Date of referral:**

Part 2: Outcome - complete and fax to 09 438 3210 within 7 days and all relevant clinical notes must accompany this form

Final diagnosis: _____

Patient was: (please tick)	Managed in primary care ☐	Eventually admitted to hospital ☐	ED ☐	Deceased ☐

Tax invoice for practice based services (initial consult paid by Patient as normal) charged to POPN should be charged in full. Claims exceeding $400 (excluding ultrasound) without prior approval risk non-payment of the excess cost.
*Prior approval may be obtained by calling the Primary Options Programme Northland Coordinator on 0800 PRIMARYOPS (0800 774 627)

Date of Visit (Patient pays initial GP consult)	Detail / Item (Eg. Time spent for consult or obs, consumables or kits used etc. Refer to claiming guidelines if needed).	Amount $

*Refer to the claiming guidelines section of the Primary Options Programme manual.

**A corresponding invoice must be sent to Primary Options for payment to be made.

Admin Fee ($15 max)	
Total claim (incl. GST)	$

Primary Options Programme Northland
c/o Manaia Health PHO
PO Box 1878, Whangarei 0140
Phone: 0800 PRIMARYOPS (0800 774627) / Fax: 09 438 3210 / Email: primaryops@manaiapho.co.nz

Clinical Responsibility Form

NORTHLAND PRIMARY HEALTH ORGANISATIONS

Primary Options Programme Northland (POPN)
CLINICAL RESPONSIBILITY FORM

To be sent to Primary Options Programme Coordinator at completion of inital consultation.
Email: primaryops@manaiapho.co.nz or fax: 09 438 3210

PO Case Number: _____
Place Case Reference Number sticker here

PATIENT DETAILS

Surname:	First name:	NHI:
Address:		Home phone: Mobile:
Ethnicity:	DOB:	Male / Female (please circle)

REFERRED TO:

Rest Home:
Private Hospital:
Home Nursing Service:

GP DECLARATION

I will take clinical responsibility for this patient except when the following Doctor on the following days will assume clinical responsibility on my behalf.

Dr:	GP Name:
Days:	NZMC:
GP Signature:_____ Date:_____	Practice Name:
INSTRUCTIONS Referring GP: • Complete form and fax to GP accepting clinical responsibility GP accepting responsibility: • Sign the faxed form and send to POPN on 09 438 3210, and referring GP	Phone Number Day: A/H: Mobile:

Primary Options Programme Northland / PO Box 1878, Whangarei 0140

Ph 0800 PRIMARYOPS (0800 774 627) / Fax 09 438 3210

Terms and Conditions

Background

This document represents a Contract between Northland Primary Health Organisations and Doctors wishing to refer to the Primary Options Programme Northland (POPN).

Northland Primary Health Organisations (NPHOS) consists of Manaia PHO, Te Tai Tokerau PHO, Whangaroa PHO, Hokianga Health Integrated PHO, and Kaipara Care Inc.

POPN is operated by NPHOS under contract to the Northland District Health Board (NDHB).

The contract with the NDHB specifies a service that will have an immediate and significant impact on health outcomes for Patients and the growth in acute hospital referrals by empowering primary care providers to provide more flexible and responsive alternatives to an acute hospital referral.

The range of acute alternative services includes, but is not limited to, the range of services listed in the POPN Directory.

POPN is available to Patients who are normally resident in the NDHB area.

Objective

The objective of POPN is to have an immediate and significant impact on health outcomes for Patients and the growth in acute hospital referrals by empowering primary care providers to provide more flexible and responsive alternatives to an acute hospital referral.

Outcomes

The overall outcome of POPN is to demonstrate Primary Care's ability to reduce acute demand at Northland Hospitals.

The specific outcome sought by POPN is 85% of referrals "managed without admission" at an average cost of $400 or less per referral.

Definition of the POPN Service

POPN and its procedures are defined in the Primary Options Programme Northland Manual. POPN may be modified from time to time by NPHOS.

Qualifying Patients

All Patients of Qualifying Doctors who are normally resident in the NDHB region are eligible to be referred to the POPN Service.

Any Patient who, following a normal consultation, the Doctor would normally refer acutely to a Northland Hospital, but who the Doctor considers could be safely managed in the community with extra support or diagnostic services, can be referred to POPN.

Qualifying Doctors

Any Registered Medical Practitioner who holds a current Annual Practicing Certificate and has not been found guilty of disgraceful conduct under the Medical Practitioners Act 1995.

Medical and Nursing Staff

All medical and nursing staff employed by the referring doctor will be registered with their appropriate statutory body and hold a current annual practicing certificate**.**

Clinical Responsibility

When a Doctor who is not the Patient's GP, refers a Patient to POPN, (the Initiating Doctor), he/she agrees to advise and hand over care to the Patient's GP at the earliest practical opportunity e.g. next working day.

The Initiating Doctor carries clinical responsibility for managing the Patient's acute illness until the responsibility has been accepted by the Patient's GP.

Quality Standards

Medical practitioners referring patients to POPN will apply sound clinical judgement to ensure that patient safety is not compromised. It is expected that they will adhere to the quality standards of the RNZCGP or other professional body approved by the medical council for the purposes of accrediting health providers and the quality standards established by the PHO including standards that ensure that services are delivered in a culturally appropriate and competent manner. Non-accredited service Practitioners are expected to meet the requirements of code of health and disability services consumer rights.

Records

In addition to regular Clinical Records, Doctors referring to POPN will complete the Referral Form/Intervention Record, and Evaluation Form/Invoice as required by POPN, and ensure the correct Case Reference Numbers are attached to all forms.

Indemnity

When using POPN the Doctor agrees to take full clinical responsibility for managing the treatment and ongoing care of their Patient in the community.

The Doctor indemnifies Northland Primary Health Organisations against any loss, damage or expense incurred by NPHOS Assessments as a result of any action or poor performance by the Doctor.

Audit

The Doctor agrees to cooperate with NPHOS in its audit responsibilities under the contract between NPHOS and NDHB.

The Doctor agrees to allow NDHB reasonable access to premises, all relevant information, and POPN Service Patients or their families as required for audit purposes.

For the purposes of carrying out any audit, access to clinical information will only be made available to a suitably qualified registered medical practitioner.

Claiming

The Doctor agrees to adhere to the claiming instructions as defined in the POPN Information Manual and as modified from time to time by NPHOS.
The Doctor agrees to complete a referral form for each claim made by the Doctor or the Doctor's Practice and notifies the POPN office of a referral within 24hrs of initiation.
The Doctor agrees to forward all relevant information along with the claim to the POPN office within 30 days of completion of the episode of care.

Payment for the Service

NPHOS agrees to pay for all referrals made by the Doctor to the Service up to a total cost price of $400 per referral, or if over $400, as approved by the Service Co-ordinator or Clinical Director.

Cost Control

Payment of the Service is subject to the POPN Referral Cost Control Process as contained in the POPN Service Manual.

Doctor Acknowledgement

In signing the Referral Form or submitting a referral electronically, the Doctor acknowledges that he/she has read, understood, and agrees to be bound by these Terms and Conditions when referring to the Northland Primary Health Organisations, Primary Options Programme Northland Service.

NPHOS reserves the right to modify or limit the availability to the Service without further notice.

Record of Amendments

The below table lists details of any amendments made post authorisation of this document.

Date	Page amended	Details	Authorised by
13/06/2014	30	Cellulitis pathway exclusion criteria amended	Dr T Kistemaker (Acting Clinical Director)
13/06/2014	70	Referral to specific bisphosphonates removed	Dr T Kistemaker (Acting Clinical Director)

Acknowledgements

Special thanks to Primary Options Acute Care Counties Manukau (POAC), and Waitemata Primary Options (POAK) AND Pegasus Health (Christchurch) for their invaluable assistance in developing this manual.